400 Seventh Street, S.W.
Washington, D.C. 20590

U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

Dear Crash Data Researchers/Users:

Thank you for choosing crash data from the National Highway Traffic Safety Administration (NHTSA) for your research or other use. The information contained in this motor vehicle crash report is collected, maintained and distributed in accordance with Public Law 89-564. In accordance with this Public Law, NHTSA is required not to release any case information until completion of quality control procedures. These procedures include a review of the case material to extract all names, licenses and registration numbers, non-coded interview material, non-research related researcher comments in the margins, non-factual data, and the production number portion of the vehicle identification number (VIN).

If you requested NHTSA to query its database files in order to identify a specific crash, then that query was made using non-personal descriptors you provided for use in our search. This motor vehicle crash may have been identified from a data search and matches the general, non-personal descriptors you provided, but we cannot confirm that this is the specific crash report you requested.

If you have any questions with regard to the above procedures, please contact the Field Operations Branch, Crash Investigation Division, National Center for Statistics and Analysis at 202-366-4820. Again, please be advised that we cannot confirm that this is the case that you have specifically requested nor can we certify the information to be correct.

*** *** ***

TRANSPORTATION SCIENCES CENTER
ACCIDENT RESEARCH GROUP

Division of Calspan SRL Corporation
Buffalo, New York 14225

CALSPAN ON-SITE AIR BAG/CHILD PASSENGER FATALITY INVESTIGATION

CALSPAN CASE NO. ~~CA94-45~~ CA9608
VEHICLE - 1995 HYUNDAI ACCENT
LOCATION - FLORIDA
CRASH DATE - [redacted] 1996

Contract No. DTNH22-94-D-07058

Prepared for:

U.S. Department of Transportation
National Highway Traffic Safety Administration
Washington, D.C. 20590

DISCLAIMER

This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no responsibility for the contents or use thereof.

The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the National Highway Traffic Safety Administration.

The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points are coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

TECHNICAL REPORT STANDARD TITLE PAGE

1. *Report No.* 96-08	2. *Government Accession No.*	3. *Recipient's Catalog No.*
4. *Title and Subtitle* Calspan On-Site Air Bag/Child Passenger Fatality Investigation Vehicle: 1995 Hyundai Accent Location:		5. *Report Date:* [redacted] 1997 6. *Performing Organization Code*
7. *Author(s)* Accident Research Group		8. *Performing Organization Report No.*
9. *Performing Organization Name and Address* Transportation Sciences Center Accident Research Group Division of Calspan SRL Corporation P.O. Box 400 Buffalo, New York 14225		10. *Work Unit No.* [redacted] 11. *Contract or Grant No.* DTNH22-94-D-07058
12. *Sponsoring Agency Name and Address* U.S. Department of Transportation National Highway Traffic Safety Administration Washington, D.C. 20590		13. *Type of Report and Period Covered* Technical Report Crash Date: [redacted] 996 14. *Sponsoring Agency Code*

15. *Supplementary Notes*
On-site investigation of a multiple event run-off-road crash that involved an air bag equipped 1995 Hyundai Accent. The infant right front passenger was restrained in a rearward-facing infant restraint and was fatally injured by the deploying passenger side air bag.

16. *Abstract*
This on-site air bag deployment crash focused on the injury mechanisms for the fatal injuries sustained by a 3 month male passenger who was restrained in a rearward-facing Evenflo On-My-Way child restraint in the right front position of a 1995 Hyundai Accent. The driver of the vehicle was assisting the mother of the infant by following her to a auto repair service center for repairs to the mother's vehicle. Due to a leaky exhaust system, the infant's mother allowed the Hyundai driver to transport the infant in her vehicle and not expose the child to the potentially hazardous exhaust fumes. A third party assisted in the placement of the infant restraint in the right front position of the Hyundai. None of the adults were aware of the risks associated with the risks of rearward-facing child restraints and the deployment of passenger side air bag systems.

En route to the service center, the driver of the Hyundai initiated a rapid CW steering input with braking as she attempted to avoid the mother's vehicle from encroaching into her lane of travel. The Hyundai subsequently broke traction on the dry asphalt road surface and initiated a CW yaw. The left side tires impacted a barrier curb as the vehicle mounted the curb and descended a grassy embankment. The frontal undercarriage area gouged the embankment as the Hyundai impact a sign post and initiated an overturn sequence. The right A-pillar area subsequently impacted a tree as the vehicle slid on its roof to final rest.

The driver and passenger side air bag system deployed during the crash sequence. The driver was belted and sustained minor injuries from the crash. The 3 month old male infant passenger was properly secured in the rearward-facing Evenflo infant restraint. The deploying passenger side air bag membrane loaded the back side of the restraint which resulted in multiple skull fractures (AIS-4) and underlying brain injuries (AIS-4). He was transported to a local hospital and transferred to an additional facility where he expired approximately 7 hours post-crash.

17. *Key Words* On-site investigation Multiple event run-off-road crash sequence Air bag deployemnt	18. *Distribution Statement* General Public		
19. *Security Classif. (of this report)* Unclassified	20. *Security Classif. (of this page)* Unclassified	21. *No. of Pages* 24	22. *Price*

TABLE OF CONTENTS

CALSPAN ON-SITE AIR BAG/CHILD FATALITY INVESTIGATION
CALSPAN CASE NO. CA96-8
VEHICLE: 1995 HYUNDAI ACCENT
LOCATION: FLORIDA

SUMMARY

This on-site investigation focused on a single vehicle run-off-the-road type crash that resulted in the death of a 3 month old infant who was positioned in a rear-facing infant restraint in the right front of a 1995 Hyundai Accent. The vehicle was equipped with a Supplemental Restraint System (SRS) which consisted of dual driver and passenger side air bags which deployed during the multiple impact crash sequence. The deploying passenger side air bag expanded against the rearward-facing infant restraint and fractured the ABS-type plastic shell of the restraint. The acceleration of the child restraint from the deploying air bag resulted in massive linear and basilar skull fractures with diffuse subarachnoid and subdural hemorrhage.

The crash occurred on an urban 4-lane divided state route in Florida during the month of [redacted] 1996, during daylight hours. The weather was clear and the asphalt road surface was dry. In the vicinity of the crash site, the road curved to the left and was level with a 2 percent super-elevation. The posted speed limit was 72 km/h (45 mph). A concrete barrier curb bordered the outboard travel lanes with a grassy area separating the curbline from a concrete sidewalk. An embankment with a negative slope of approximately 30 degrees extended beyond the sidewalk. Trees and shrubs occupied the area at the base of the embankment.

The involved vehicle was a 1995 Hyundai Accent, 4 door sedan. The Hyundai was purchased as a used vehicle by the 19 year old female driver approximately one month prior to the crash. She stated that she had driven the vehicle approximately 4,000 km (2,500 miles) during the one month of ownership. At the time of the crash, the vehicle had an odometer reading 18,600 km (11,558 miles). The vehicle was manufactured o[redacted]/95 and was identified by vehicle number KMHVF14N7SU (production number deleted). In addition to the SRS, the Hyundai was equipped with 3-point manual lap and shoulder belts in the four outboard seated positions and a center rear lap belt. The front belt systems were equipped with adjustable upper anchorages (D-rings). At the time of vehicle inspection, both upper anchorages were adjusted to the lowest positions.

The 19 year old female driver of the vehicle had a stated height of 154.9 cm (61.0") and weight of 65.8 kg (145.0 lb). She had been a licensed driver for two years and stated that she was familiar with the Hyundai and its controls. The driver further stated that she had read the Owner's Manual that was supplied with the vehicle. She also noted that she was a dedicated seat belt user, however, the latchplate tab of the driver's belt system lacked routine wear marks. Located 14.0-22.2 cm (5.5-8.75") above the floor anchorage was an energy management loop contained within a vinyl jacket. A label was sewn to the belt webbing which advised replacement of the belt system if the label is exposed. The label remained encased within the jacket with no evidence of loading on the belt system.

The right front passenger of the vehicle was a 3 month old infant male who was positioned in a rearward-facing child restraint in the right front of the Hyundai Accent. The infant was placed and restrained in the vehicle by a mutual friend with the assistance of the driver and mother of the infant. The child restraint was an [redacted] On-My-Way infant restraint/carrier that locked into a base module. Attached to the seat was a pivoting carrying handle which attached to the side surfaces of the plastic shell. The carrying handle was positioned forward at the top, or leading edge of the plastic shell (forward of the infant's head). A three-point harness system was incorporated into the child restraint which secured the infant within the restraint. The child restraint was subsequently secured to the vehicle by the 3-point manual belt system. A locking clip was provided with the infant restraint, however, at this time, it was unknown if the clip was required for this vehicle installation, or used at the time of the crash. The locking clip was recovered from the right rear seat area of the vehicle. The [redacted] infant restraint was manufactured on [redacted], 1995, and was identified by Model No. [redacted]. In addition to the restraint, a color coordinated sun shield was affixed to the upper aspect of the restraint.

The mother of the infant was experiencing car trouble (exhaust and tire) and had asked a friend to follow her to a local repair shop where she was leaving the vehicle for repair. Due to the exhaust problem, the mother did not want the infant riding in her vehicle, therefore it was suggested that the infant ride in the Hyundai. The mutual friend of the mother and driver of the Hyundai placed the infant and the infant restraint in the vehicle and allegedly secured the restraint properly with the vehicle's belt system. The mother entered her vehicle and departed toward the repair shop with the driver of the Hyundai following behind her. The vehicles turned onto the four-lane divided state route and proceeded in a northerly direction. The infant's mother was driving her vehicle on the inboard travel lane while the driver of the Hyundai Accent was traveling on the outboard travel lane. Both driver's estimated their travel speed at 64-72 km/h (40-45 mph) as they entered the left curve.

The mother of the infant stated that the driver of the Hyundai drifted over the inboard (left) lane line, encroaching into her path of travel. The driver of the Hyundai alleged that the mother's vehicle began to encroach into her lane of travel. The driver of the Hyundai applied a rapid clockwise (CW) steering input in an attempt to avoid the encroaching vehicle. As a result of the CW steering input, the Hyundai broke traction of the dry asphalt road surface and yawed in a CW direction. The driver stated that as the vehicle went out of control, she relinquished all steering and brake functions, allowing the vehicle to travel off-road. The investigating officer documented 19.2 m (63.0') of tire marks on the asphalt road surface. The vehicle yawed across the outboard travel lane and impacted the barrier curb with the left side tires and wheels. The curb impact damaged both left side wheels and wheel covers. Based on the investigating officer's scaled schematic of the crash scene, the vehicle yawed approximately 25 degrees as it departed the roadway.

The vehicle continued to rotate in a CW direction as it crossed the grassy area and the concrete sidewalk which parallelled the curbline. The Hyundai subsequently traversed the 30 degree embankment leading with its left side. While traversing the embankment, the front undercarriage area of the vehicle gouged the earthen embankment. The vehicle began to overturn as the left side of the Hyundai impacted a large sign that was supported by two 10 x 10 cm (4 x 4") posts. The post

impacts were located on the left front fender at the A-pillar and at the left rear door and C-pillar. The 3 o'clock impact force fractured the posts at ground level as the vehicle overturned onto its roof. The Hyundai subsequently slid on its roof for approximately 7.9 m (26.0') before impacting a 22.9 cm (9.0") diameter tree with the right A-pillar area. The non-horizontal impact produced 25.4 cm (10.0") of crush to the right A-pillar at the beltline elevation. The Hyundai rotated from the tree and came to rest approximately 4.0 m (14.0') beyond the struck tree.

The driver of the Hyundai sustained superficial abrasions under the left eye from probable air bag/sunglasses contact. In addition, she sustained a contusion with swelling of the left anterior forearm from contact with the deploying driver's side air bag. Contact evidence on the air bag consisted of vertically oriented lipstick transfers that were located several centimeters left of center. The vertical oriented transfers suggested that the steering wheel was rotated approximately 90 degrees as the bag deployed. The driver also sustained abrasions to both knees which possible resulted from exiting the vehicle as no evidence of knee contact was observed within the vehicle.

The deploying passenger side air bag contacted the leading edge of the rear-facing infant restraint. The contact resulted in two 2.9 cm (1.1") fracture lines in the plastic shell of the restraint at the mid point, located between the integral harness slots and a plastic belt webbing tab. In addition to the fractures, the carrying handle was heavily abraded across the full width of the restraint from air bag contact.

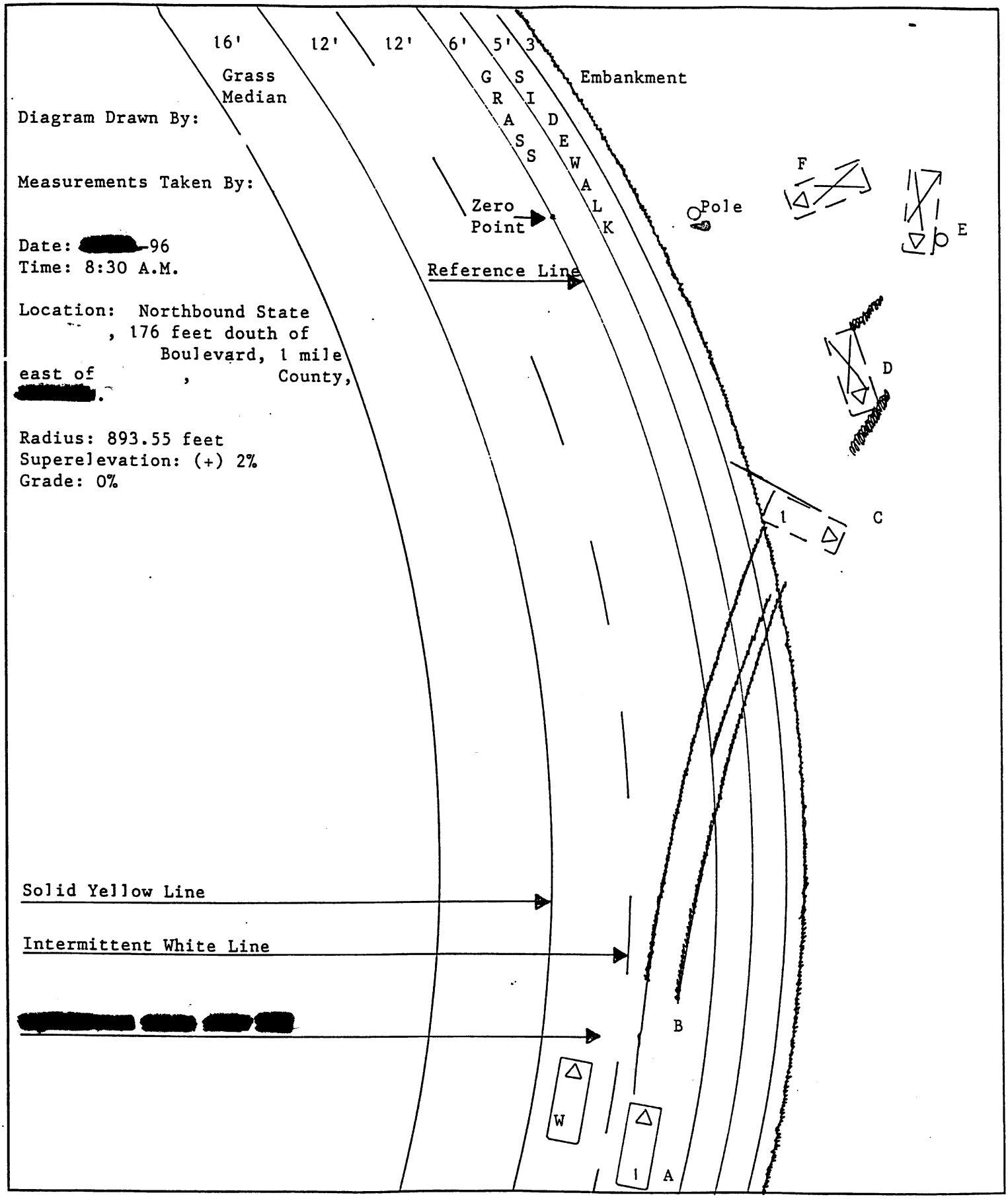
The infant was reported as sleeping at the time of the crash with his head turned to the right, toward the right side of the vehicle. The loading of the restraint by the deploying air bag accelerated the child restraint in a rearward direction into the right front seat back support. The infant's forehead contacted the seat back support which abraded his forehead area. The impact of the deploying air bag and acceleration of the infant restraint produced massive linear and basilar skull fractures with underlying subdural and subarachnoid hemorrhage.

The deploying passenger side air bag expanded from a module assembly that was located in the upper aspect of the right instrument panel. The module cover flap extended 7.6 cm (3.0") in the vertical direction from the mid panel and 10.8 cm (4.25") onto the upper instrument panel where it was hinged. The overall width of the cover flap was 35.2 cm (13.875"). There was no contact evidence on the module cover flap or infant restraint to support contact between the flap and restraint. All loading evidence on the infant restraint was air bag fabric related.

The vehicle came to rest in an upside-down attitude. The driver of the Hyundai attempted to open the left front door, however, the door would not open. She subsequently rolled the left front window down as an exit point from the vehicle. The driver immediately checked the condition of the infant and noted that the infant remained in the restraint and was hanging upside/down from the integral harness. She removed the infant front the restraint's integral harness and passed the infant to his mother who ran to the crash site. The infant was reported to be semi-conscious and moaning as if in pain per the mother.

The infant was transported to a local hospital where he was examined for possible injury. The mother stated that he began to cry and move all extremities and respond to her voice. The infant's condition was initially reported as stable. Within several hours of the crash, the occipital area of the infant's scalp began to swell. The medical staff X-rayed the skull and noted the fracture points. The infant was prepared for ambulance transfer to a local hospital for further neurological evaluation and treatment. He expired due to head injuries approximately 2 hours following transfer and approximately 7 hours after the crash.

CRASH SCHEMATIC



CALSPAN ON-SITE AIR BAG/CHILD PASSENGER FATALITY INVESTIGATION
CALSPAN CASE NO. CA96-8
VEHICLE: 1995 HYUNDAI ACCENT
LOCATION: FLORIDA

CRASH DATA

Location:	State route
State:	Florida
Area/Type:	Urban/Residential (apartments)
Crash Date/Time:	[redacted]1996, daylight hours
Crash Type:	Single vehicle run-off-road, multiple impacts
Air Bag Vehicle Occupant Injury Severity:	Driver - Minor (AIS-1) Infant Right Front Passenger - Fatal outcome (AIS-4)

AMBIENCE

Viewing Conditions:	Daylight
Weather:	Clear
Precipitation:	None
Road/Environmental Surfaces:	Dry

HIGHWAY

Type:	State route, minor arterial
Number of Lanes:	4, divided
Width:	7.8 m (25'6"), northbound travel lanes
Surface:	Asphalt
Median:	Curbed grass median, 5.2 m (17.0') wide
Edge:	0.6 m (2.0') rain gutter with 15.2 cm (6.0") barrier curb

HIGHWAY (CONT'D.)

Vertical Alignment:	Level
Horizontal Alignment:	Left curve, 272.4 m (893.6') radius of curvature
Estimated Coefficient of Friction:	Road surface - .75 Off-road surfaces - .55
Traffic Density:	Moderate

TRAFFIC CONTROLS

Signals:	None
Signs:	None pertinent
Markings:	Solid white edgelines, dashed white lane delineations
Posted Speed Limit:	72 km/h (45 mph)

VEHICLE

Description:	1995 Hyundai Accent, 4 door sedan
V.I.N.	KMHVF14N7SU (production number deleted)
Date of Manufacture:	[redacted]95
Color:	Purple
Odometer:	18,600 km (11,558 miles)
Engine:	4 cylinder, 1.5 liter
Transmission:	4-speed automatic overdrive, console mounted transmission selector lever
Steering:	Rack-and-pinion
Brakes:	Power-assisted front disc, rear drum; no anti-lock (ABS)
Padding:	Upper and mid instrument panel, soft edged steering wheel rim and air bag module cover flaps, sunvisors, adjustable head restraints, door panels and armrests,

VEHICLE (CONT'D.)

Manual Restraints:	3-point lap and shoulder belts in the four outboard seated positions, front belt systems had adjustable upper anchorages (D-rings)
Automatic Restraints:	Supplemental Restraint System (SRS) which consisted of dual driver and passenger side air bags which deployed during the crash sequence.
Tow Status:	Towed due to vehicle damage

VEHICLE DAMAGE

Exterior:

The 1995 Hyundai was involved in a single vehicle roadside departure crash that involved six (6) impact events to multiple areas of the vehicle. The initial impacts, Event Nos. 1 and 2, involved the left front and left rear tires and wheels respectively which contacted the 15.2 cm (6.0") barrier curb as the vehicle departed the right roadedge. Both wheels sustained minor deformation at the outer edge which resulted in airouts of the left side tires. The tire impacts did not displace the composite wheel covers from the steel wheels.

As the Hyundai mounted the barrier curb and traversed the grassy area and concrete sidewalk, the vehicle traveled down the earth embankment in a CW yaw and gouged the embankment with the front undercarriage area. The undercarriage contact (Event No. 3) involved the engine shield that was mounted between the lower bumper fascia and the front crossmember, and the integral valance/air dam of the front bumper fascia. Direct contact damage consisted of abrasions with embedded dirt and vegetation. The damage began 61.0 cm (24.0") left of center and extended 114.3 cm (45.0") across the frontal width of the vehicle. The sheetmetal engine shield was displaced approximately 8.9 cm (3.5") in both an upward and rearward direction. The valance area of the bumper fascia was displaced vertically by the engine shield deformation, however, there was no structural involvement of the bumper assembly. A tie-down bracket was affixed to the leading edge of the undercarriage at the mid point of the vehicle. As a result of the undercarriage contact, the tie-down bracket was deformed in an upward direction and was partially separated from the undercarriage mounting point. This damage is documented in Photograph No.14.

The Hyundai continued to rotate in a CW direction as it traversed the negative 30 degree embankment and initiated a lateral rollover to the left. At the initiation of roll, the left side of the vehicle subsequently impacted a large 1.2 x 2.4 m (4.0 x 8.0') plywood sign (Event No. 4) that was supported by two 10 x 10 cm (4 x 4") posts that were approximately 3.0 m (10.0') in height. The posts were positioned on 172.7 cm (68.0") centers. The sign was located at the base of the embankment 8.8 m (29.0') outboard of the curbline. The vehicle impacted the

VEHICLE DAMAGE (CONT'D.)

Exterior (Cont'd.):

sign posts on a lateral travel path which resulted in a 9 o'clock impact force. The vehicle's impact sequence with the two sign posts resulted in four distinct impact patterns to the left side of the vehicle. This resulted from the vehicle's angular approach to the sign posts and the initial impact and penetration through the posts as the wooded posts fractured at multiple points. These patterns consisted of gray paint transfers with underlying superficial damage to the sheetmetal and glazing areas. The first point of contact was located on the left front fender and extended 1.3-22.2 cm (0.5-8.75") rearward of the left front axle position. The gray paint transfer extended vertically across the left front wheel cover and onto the fender directly over the tire. Due to the initiation of the roll and the fracturing of the wooden post, the transfer extended onto the top horizontal surface of the fender, ending 1.3 cm (0.5") onto the hood. Maximum crush was 1.9 cm (0.75") and was located at the upper surface of the fender 6.4 cm (2.5") rearward of the referenced axle. Photograph No. 15 documents this impact point.

The second contact point from the sign post was located on the left A-pillar 41.3-58.4 cm (16.25-23.0") rearward of the left front axle. The gray paint transfer began at the trailing edge of the fender 27.9 cm (11.0") above the ground and extended 17.8 cm (7.0") vertically to a stop point and continued 54.6-94.0 cm (21.5-37.0") above the ground onto the upper A-pillar. The transfer extended across the juncture of the fender and left front door. Maximum crush was 1.3 cm (0.5") located at the mid point of the trailing edge of the left front fender. Photograph No. 15 documents the damage. It should be noted that the depth of crush appears to be understated. This is due to lateral shifting of the frontal structure from an additional impact sequences that involved a right side tree impact and the subsequent rollover.

The second sign post damage pattern was located on the left rear door and C-pillar area. The initial contact damage was a narrow gray paint transfer which began 228.6-241.9 cm (90.0-95.25") rearward of the left front axle and extended vertically across the left rear wheel cover, onto the left rear quarter panel and door panel at the rear edge of the door handle, across the left rear quarter window and door window frame, and onto the upper C-pillar. The sheetmetal contact resulted in 3.8 cm (1.5") of crush located at the rear edge of the door handle and 2.0 cm (0.8") of crush at the upper C-pillar. The fixed quarter window glazing was shattered by the post contact. This damage pattern is documented in Photograph Nos. 16 and 17.

An additional post contact point was located on the sill, left rear door, door window frame, C-pillar, and roof. The gray paint transfers began on the left sill 170.2-182.2 cm (67.0-71.75") rearward of the front axle position and extended 23.5 cm (9.25") vertically onto the lower aspect of the rear door. The contact resulted in 1.9 cm (0.75") of crush to the sill and 1.0 cm (0.4") of crush to the door at the level of the rub strip. The transfer continued at the level of the mid door, 59.0 cm (23.25") above the ground and continued vertically 32.4 cm

VEHICLE DAMAGE (CONT'D.)

Exterior (Cont'd.):

(12.75") to the beltline of the Hyundai. At this level, the transfer was located 193.7-215.3 cm (76.25-84.75") rearward of the front axle position and resulted in superficial sheetmetal damage. The post contact extended across the quarter window and onto the C-pillar and roof, resulting in 1.0 cm (0.4") of crush at the C-pillar area. This contact damage patten is documented in Photograph Nos. 16 and 17.

The Hyundai subsequently initiated a lateral rollover sequence to its left which resulted in minimal left side contact damage before rolling onto its roof (Event No. 5). Vertically oriented abrasions were noted to the left front fender which extended 71.1 cm (28.0") rearward of the leading edge. The left A-pillar mounted rear view mirror was fractured from its mount as a result of the rollover, however, there was no contact damage to the left side doors or rear quarter panel. As the Hyundai rolled onto its roof, superficial dents and laterally oriented abrasions were present on the hood. This contact damage began at the left hood edge, 63.5 cm (25.0") left of center and extended to a point 33.0 cm (13.0") right of center. The superficial damage extended 58.4 cm (23.0") rearward from the hood face. The abrasions from the rollover sequence extended 96.6 cm (38.0") rearward of the left A-pillar/windshield header juncture onto the left roof side rail. As the Hyundai overturned onto its roof, superficial abrasions extended across the full length (101.6 cm) and width (134.6 cm) of the roof panel. Maximum crush was 3.8 cm (1.5") located at the mid rear seat area 88.9 cm (35.0") rearward of the windshield header. The tempered glass sunroof remained closed and intact during the rollover sequence. There was no contact damage on the trunk lid of the vehicle.

The Hyundai slid on its roof into a 22.9 cm (9.0") diameter tree (Event No. 6). The non-horizontal impact involved the right A-pillar area of the vehicle. The direct contact damage from the tree impact began 173.0 cm (68.1") forward of the right rear axle and extended 24.1 cm (9.5") forward. The lateral extent of maximum crush was 28.3 cm (11.1") that was located on the right door 7.6 cm (3.0") rearward of the right A-pillar. The combined induced and direct contact damage began at the trailing edge of the left front door and extended 152.4 cm (60.0") forward to the mid aspect of the right front fender. The crush profile at mid door level was as follows: C1= 0 cm, C2 = 3.8 cm (1.5"), C3 = 19.7 cm (7.75"), C4 = 36.8 cm (14.5"), C5 = 2.9 cm (1.1"), and C6 = 0 cm .

		Event No.
CDC:	10-LFWN-2	1
	10-LBWN-2	2
	00-UFDW-1	3
	09-LYEW-3	4
	00-TYDO-2	5
	00-RYEN-3	6

VEHICLE DAMAGE (CONT'D.)

Interior:

The interior of the Hyundai Accent sustained moderate damage that was associated with exterior deformation, intrusion of interior components, and deployment of the supplemental air bag system. The intrusion resulted from lateral displacement of the right A-pillar and door from the non-horizontal impact with the tree (Event No. 6). Maximum intrusion involved 14.0 cm (5.5") of lateral displacement of the right mid A-pillar which compressed the right instrument and rotated the passenger side air bag module assembly (refer to Photograph No. 52). The glove box door subsequently opened as a result of A-pillar displacement and panel compression.

The supplemental driver and passenger side air bag system deployed as designed from the respective module assemblies. The driver's face contacted the deployed driver's side bag as evidenced by lipstick transfers on the face of the bag. The passenger side air bag fabric expanded against the rearward facing child restraint. As a result of expansion against the infant restraint, fabric transfers were present on the bag fabric from the lining of the infant restraint. There was no damage to the air bag fabrics.

The driver loaded the manual belt webbing as she responded to the crash forces during the multiple event collision sequence. Her loading force was evidenced by a superficial abrasion on the inside surface of the polymer coating of the latchplate (refer to Photograph No. 44). There was no separation of the energy management loop of D-ring transfers on the webbing.

AUTOMATIC RESTRAINT SYSTEM

The 1995 Hyundai Accent was equipped with a Supplemental Restraint System (SRS) that consisted of dual driver and passenger side air bags. The SRS deployed during the multiple event collision sequence which followed the vehicle's departure from the divided state route. The driver's side air bag module was mounted within the four-spoke steering wheel and was flush with the outer edge of the rim. The steering wheel spokes were offset within the rim with the upper spokes at the 9:30 and 2:30 o'clock position and the lower spokes at the 8 and 4 o'clock position. The driver's side air bag module cover flaps opened at the designated tear points in an H-configuration. The cover flaps were approximately symmetrical in size with vertical dimensions of 7.6 cm (3.0") and 5.7 cm (2.25") respectively for the upper and lower cover flaps. Both cover flaps were 15.0 cm (5.9") in width at the horizontal tear seam and approximately 3.2 mm (0.125") in thickness. The mid aspect of the upper module cover flap was embossed with the Hyundai logo and SRS AIRBAG directly under the logo. The inside surface of the upper module cover flap was embossed with the following: SAE TPO >TPO<. In addition, identification numbers 1928 and 267.4 were hand written in yellow ink adjacent to the above letters on the inside surface of the upper flap. There was no damage to the cover flaps.

AUTOMATIC RESTRAINT SYSTEM (CONT'D.)

The driver's side air bag was constructed of two separate woven nylon-type fabrics that were sewn together at the internal peripheral seam. The forward segment of the bag (section affixed to the inflator) consisted of a close weave fabric that was not lined. The driver's side fabric of the bag was lined with a neoprene fabric. Internally, the bag was tethered with two wide-band tether straps that were 10.2 cm (4.0") in width and affixed to the face of the bag with a 15.2 cm (6.0") diameter reinforcement that was sewn with three rows of stitching. The air bag was vented by two 2.5 cm (1.0") diameter ports that were located at the 10 and 2 o'clock positions. The centers of the vent ports were located 8.9 cm (3.5") inboard of the peripheral seam and 17.8 cm (7.0") outboard of the gas generator. The air bag was approximately 58.4 cm (23.0") in diameter in its deflated state and was identified by the following bar coded label that was affixed to the bag at the 12 o'clock position (refer to Photograph No. 33).

There was no damage (i.e., tears, abrasions, burns) to the deployed driver's side air bag. Driver facial contact with the deploying air bag resulted in lipstick transfers to the lower center area of the bag. The transfers were vertically oriented on the air bag (refer to Photograph Nos. 31 and 32) which indicated the steering wheel was rotated approximately 90 degrees in a clockwise direction as the SRS deployed. Irregular purple shade transfers were located 1.3-6.4 cm (0.5-2.5") right of the vertical centerline of the bag and 7.6-12.7 cm (3.0-5.0") below the horizontal centerline. These lipstick transfers consisted of four distinct marks that were located directly outboard of the tether reinforcement stitching. The most pronounced lipstick transfer was located 3.8-9.5 cm (1.5-3.75") below the horizontal centerline and 1.9-5.7 cm (0.75-2.25") left of center. As documented on Photograph No. 32, the upper and lower lipstick transfers were separated by 2.3 cm (0.9").

The passenger side air bag module assembly was located at the apex of the right upper and mid instrument panel in a mid mount (transitional) configuration. The unit was concealed beneath a single module cover flap which opened at the designated tear points. The cover flap was hinged at the top edge, parallel to the windshield. The overall dimensions of the passenger side air bag module cover flap were 35.2 cm (13.9") in width and 18.4 cm (7.25") vertically. The profile of the flap was contoured to the profile of the instrument panel. SRS AIRBAG was molded into the lower right quadrant of the cover flap. There was no contact evidence or damage to the passenger side module cover flap. The right instrument panel, inclusive of the passenger side air bag assembly was rotated vertically downward by the lateral intrusion of the right A-pillar. The displacement of the assembly did not imped or alter the performance and deployment path of the bag.

The passenger side air bag was constructed of a typical nylon-type woven fabric. The bag was tethered by two wide band (mesh-type fabric) internal tethers that extended across the full 42.9 cm (16.875") width of the bag. The tethers were sewn to the face of the bag on 30.5 cm (12.0") centers with two rows of stitching. The maximum rearward excursion of the bag

AUTOMATIC RESTRAINT SYSTEM (CONT'D.)

at the tether locations was 48.3 cm (19.0"). In addition to the tethers, the passenger side air bag was vented by two 5.1 cm (2.0") diameter ports that were located on the sides of the bag at the 3 and 9 o'clock positions. The vent ports were positioned (centered) approximately 38.1 cm (15.0") outboard of the inflator manifold. The inflator manifold was recessed 7.6 cm (3.0") into the mid instrument panel.

There was no damage to the passenger side air bag and/or the module cover assembly, however, fabric transfers from the rearward facing child restraint were noted to the upper aspect of the bag. A vertically oriented red fabric transfer was located 2.5-12.7 cm (1.0-5.0") below the upper seam (refer to Photograph No. 56). A faint blue fabric transfer was located 14.0-20.3 cm (5.5-8.0") left of the bag's centerline and 5.1-21.6 cm (2.0-8.5") below the referenced seam.

Air bag advisory labels were affixed to the sunvisors. On the bottom (exposed) side of the visor, at the rear inboard corner, was a label that measured 5.1 x 1.3 cm (2.0 x 0.5") which noted the following (refer to Photograph No. 47): **Air Bag. See Other Side.**

The label affixed to the top side of the visor measured 10.8 x 7.9 cm (4.25 x 3.1") and contained the following information (refer to Photograph Nos. 48 and 49):

CAUTION
TO AVOID SERIOUS INJURY:

- For maximum safety protection in all types of crashes, you must always wear your safety belt.
- Do not install rearward-facing child seats in any front passenger seat position.
- Do not sit or lean unnecessarily close to the air bag.
- Do not place objects over the air bag or between the air bag and yourself.
- See the owner's manual for further information and explanations.

MANUAL RESTRAINTS

The Hyundai was equipped with manual 3-point lap and shoulder belt systems in the four outboard seated positions of the vehicle. The front belt systems consisted on a continuous belt webbing with a sliding latchplate. Located 14.0-22.2 cm (5.5-8.75") above the lower floor anchorage was an energy management loop that was concealed within a vinyl jacket. Both management loops remained intact within indicated a minimal load was exerted on the belt webbings during the multiple event crash sequence. The upper belt webbing looped through an adjustable D-ring than continued into the B-pillar onto the dual mode locking retractor. Both upper anchorages were adjusted to the full down position (refer to Photograph No. 40). There was no loading evidence on the left front belt webbing, however,

MANUAL RESTRAINTS (CONT'D.)

the polymer covering of left front latchplate was abraded from belt interaction (driver loading) against the latchplate (refer to Photograph Nos. 43 and 44). Minimal routine wear marks were noted to the male tab of the latchplate.

The right front belt webbing was scuffed on the inboard aspect at its contact point with the plastic cover for the seat back/seat cushion juncture. A vertically oriented scuff/abrasion was noted to the inboard aspect of the webbing 4.4-6.4 cm (1.75-2.5") below the latchplate stop button. In addition, two semi-circular marks located on 3.5 cm (1.4") centers, were present on the inboard aspect of the webbing 81.3 cm (32.0") above the stop button. The overall width of the webbing was 4.8 cm (1.875"). Routine wear marks were present on both sides of the right front latchplate.

INFANT RESTRAINT

The involved infant restraint was manufactured by [redacted] on [redacted] 1995, and was identified as an [redacted] with a model number 207117P1. The restraint consisted of a molded plastic shell that clipped into a plastic base unit (refer to Photograph Nos. 71 and 72), an adjustable carrying handle that was affixed to pivot points located at the mid aspect of the restraint shell, and a foam pad with a multi-color cloth lining. A three-point harness system secured the infant into the restraint with a flush mounted center buckle assembly. The base unit was in use at the time of the crash. An advisement label on the face of the base unit indicated that the restraint could be detached from the base unit and used in a second vehicle without the base.

A warning label was affixed to the left side of the restraint which illustrated the proper routing of the vehicle's belt system for the various seated positions (refer to Photograph No. 73). When the restraint is used with the detachable base, the vehicle's belt system must be routed through a large port in the rear aspect of the base (refer to Photograph No 73). If the base is not used with the rearward facing restraint, the belt system must be routed through the two loops molded into the upper rear aspect of the restraint. The driver of the Hyundai and the mother of the infant both stated that the vehicle's belt system was properly routed through the base unit when the restraint was secured to the right front of the vehicle prior to this trip. A locking clip was stowed on the back side if the restraint, however, the clip was not used.

The carrying handle was adjusted to a forward position over the top of the shell of the restraint. The deploying passenger side air bag membrane expanded against the plastic shell and the handle of the rearward-facing infant restraint. The S-configuration handle was heavily abraded across both sides of the center hand grip area. The left side was abraded over a length of 31.4 cm (12.4") and the right side was abraded over a length of 20.3 cm (8.0"), refer to Photograph Nos. 77 and 78. Air bag expansion against the handle loaded the

pivot points and fractured the left side pivot, partially separating the handle from the shell (refer to Photograph No. 73). Bag expansion against the shell of the restraint produced a single fracture line that extended across the slots for the shoulder belt harnesses. The fracture line radiated from the inboard aspect of both harness slots and extended 2.9 cm (1.9") inboard to a cutout area at the center of the shell (refer to Photograph No. 76).

A fabric sun canopy was mounted to the sides of the plastic shell and positioned over the top aspect of the infant restraint. The expansion of the passenger side air bag displaced the canopy from the attachment clips. There was no damage to the canopy (refer to Photograph No. 81).

In addition to the warning label on the base of the restraint for the belt routing, the left side of the shell of the rearward-facing restraint was affixed with a yellow warning label that stated the following (refer to Photograph No. 74):

WARNING:
DO NOT PLACE THIS RESTRAINT IN THE FRONT SEAT
OF A VEHICLE THAT HAS A PASSENGER SIDE AIR BAG.
SERIOUS INJURY OR DEATH CAN OCCUR IF AN AIR BAG
INFLATES AGAINST A REAR-FACING CHILD RESTRAINT.

The mother of the infant stated that she purchased the child restraint as a new unit for her infant. She stated that she reviewed the illustrations of the box, however, she never read the instructional manual that was supplied with the restraint. She was unaware of the risks associated with the passenger side air bag and the placement of a rearward-facing child restraint.

The driver of the Hyundai had purchased the Accent as a used vehicle approximately 1 month prior to the crash with an odometer reading of 14,500 lm (9,000 miles). The driver stated that she read the owner's manual for the vehicle, however, she was unaware of the warnings against the placement of the rearward facing child restraint in the right front of the vehicle. Pages 1-11 through 1-13 of the manual pertained to information regarding child restraints while pages 1-14 through 1-16 pertained to data relating to air bags. The driver had retained the manual at her residence as a reference for vehicle data.

COLLISION SEQUENCE

Pre-Crash:

The mother of the infant had scheduled repairs to her vehicle which required the vehicle to be dropped-off at a local service facility. The repairs included exhaust system replacement. The mother had arranged for a friend to follow her to the repair facility and provide return transportation for the mother and her infant son to the mother's residence. The mother of the infant expressed concern regarding her child riding in a vehicle with a faulty exhaust system, in which fumes entered the passenger compartment. The friend, therefore offered to transport the infant in her vehicle, the 1995 Hyundai. A mutual friend of the mother and Hyundai driver assisted by placing the infant and the [redacted] infant restraint in right front position of the vehicle. The infant was secured in the restraint by the integral 3-point harness prior to placement the infant restraint in the Hyundai, The restraint was placed in a rearward-facing mode in the right front position and secured to the vehicle by the manual 3-point lap and shoulder belt system. The mother stated the belt webbing was routed through the proper slot in the base of the restraint. The three adults were unaware of the warning labels affixed to the infant restraint and the vehicle which advised against placement of a rearward-facing child restraint in the right front position of a vehicle that was equipped with a passenger side air bag system.

The mother departed her residence en route to the service facility with the driver of the Hyundai traveling directly behind her. They turned left onto a four-lane divided state route and proceeded in a northerly direction. The mother was traveling on the inboard travel lane with the Hyundai traveling on the outboard lane in a side-by-side configuration. Both drivers estimated their travel speed at 64 km/h (45 mph). As the vehicles entered a moderate left curve, the mother stated that she detected the Hyundai drift over the lane line encroaching into her lane of travel. The Hyundai driver alleged that the mother's vehicle drifted over the lane line into the outboard travel lane. The driver of the Hyundai initiated evasive action by applying a rapid clockwise (CW) steering input and braking the non-ABS equipped vehicle. As a result of the avoidance action, the Hyundai broke traction on the dry asphalt road surface and initiated a CW yaw. The driver stated that as she lost control of the vehicle, she relinquished all steering and braking functions. Tire marks on the asphalt road surface indicated that the driver maintained a braking force as the vehicle yawed in a CW direction. The investigating police officer documented 19.2 m (63.0') of tire marks on the asphalt road surface. These marks had eroded prior to our on-site investigation.

Crash:

The Hyundai rotated approximately 25 degrees in a CW direction as it traversed the right (east) edge line based on the police documented tire marks. The outboard aspect of the left front tire and wheel impacted the barrier curb. The vehicle continued to yaw in a CW direction as the left front tire overrode the barrier curb. The left rear wheel subsequently contacted the curb which resulted in minor wheel damage to the outboard aspect of both left side steel wheels. The inboard aspect of the right side tires and wheels contacted and over-

COLLISION SEQUENCE (CONT'D.)

Crash (Cont'd.):

rode the curb, however, there was no damage to the wheels. Physical evidence (i.e., tire marks) on the asphalt road surface and the grassy area between the curb and concrete sidewalk supported the vehicle's rotation and trajectory.

The Hyundai traversed the grassy area adjacent to the curbline and crossed the sidewalk prior to descending the 30 degree embankment that was located 4.3 m (14.0') outboard of the curbline. The Hyundai traveled approximately 17 m (41') as it continued to rotate CW as it descended the embankment. The front undercarriage area of the vehicle impacted the earth embankment and gouged the grassy surface. As the Hyundai traveled to the base of the embankment, it had rotated to a near broadside orientation and initiated a lateral side-over-side rollover, leading with the left side of the vehicle. At the initiation of the roll, the left A-pillar and left C-pillar areas of the Hyundai impacted two 10 x 10 cm (4 x 4") wood sign posts that supported a 1.2 x 2.4 m (4 x 8') sign. The sign post impacts produced moderate sheetmetal damage to the vehicle and fractured the wood posts. The lateral impact force was within the 3 o'clock sector. It should be noted that the vehicle had rolled less than 15 degrees, therefore the lateral impact force of 3 o'clock applied and not the non-horizontal (00) designation.

The Hyundai subsequently overturned onto its left side and roof in a side-over-side roll configuration as its center of gravity continued in a northeasterly direction. The vehicle slid approximately 7.9 m (26.0') in a lateral direction on its roof and hood surfaces on the irregular terrain while continuing to rotate slightly in a CW direction. The right A-pillar area of the Hyundai impacted a 22.9 cm (9.0") diameter tree which resulted in 25.4 cm (10.0") of lateral crush to the A-pillar area at the beltline level. The lateral impact resulted in a non-horizontal impact force due to the overturn sequence.

The latter impact sequence was located forward of the vehicle's center of gravity which amplified the CW rotation. The Hyundai separated from the tree and rotated approximately 90 degrees CW on its roof before coming to rest approximately 4 m (14') north of the tree.

The supplemental driver and passenger side air bag system deployed during the multiple event crash sequence. There was no significant impact event that produced a longitudinal deceleration of sufficient magnitude to warrant air bag deployment. The curb impacts produced minor damage to the left side wheels with no displacement of suspension components. The frontal undercarriage impact sequence resulted in minor deformation to the sheetmetal and bumper fascia components without structural deformation. Following these impacts, the vehicle sustained lateral impact forces and non-horizontal (00 impact force) due to the sign, tree, and rollover events. The on-board air bag monitoring/diagnostic system did not have the capability to record crash events or closure times of the crash and safeing sensors, therefore air bag deployment could not be determined from vehicle data.

COLLISION SEQUENCE (CONT'D.)

Crash (Cont'd.):

The driver's facial contact evidence on the deployed driver's side air bag was located near the centerline of the bag which would support a non-displaced or minimally displaced driver at the time of deployment. That is, the air bag system deployed early in the crash sequence prior to the driver responding to the CW rotation of the vehicle and the lateral impact forces associated with the sign impact, rollover, and the right side tree impacts. Therefore, the air bag system probably deployed as a result of the curb impacts, or as a result of the embankment impact.

Post-Crash:

Final Rest - The Hyundai came to rest on its roof approximately 4 m (14') north of the struck tree. At rest, the vehicle was facing in a westerly direction, approximately perpendicular to the roadway.

Driver Activities - Immediately following the crash, the driver attempted to open the left front door, however, the door would not open due to the rollover event. She then checked on the condition of the infant who was suspended in an upside-down attitude by the integral harness of the rearward-facing child restraint. The driver removed the infant from the restraint and opened the manually operated left front door window and handed the infant to his mother who had parked her vehicle north of the crash scene and rushed to the crash site to assist with the infant and the driver. The driver subsequently crawled through the left window opening and waited at the crash scene for emergency personnel.

Rescue Activities - The local paramedics responded to the crash scene and prepared the infant for ambulance transport to a local hospital. The driver of the Hyundai was transported in the ambulance to the hospital where she was examined for possible injury.

The infant was examined by medical staff personnel at the hospital and was initially determined to be in a stable condition. The mother of the infant stated that she was holding the child at the hospital and that the infant was crying and responding to her voice. His condition subsequently declined and he was transferred to a second facility for specialized pediatric care. He expired approximately 7 hours post-crash.

Police Activities - The investigating officer receive notification of the crash and responded to the scene following the departure of the occupants and the emergency medical personnel. He checked on the condition of the occupants at the local hospital and was informed of their stable condition. He requested tow assistance and cleared the scene of the crash. The Traffic Homicide Division was subsequently notified of the crash following the death of the infant and initiated an in-depth investigation on the following day.

HUMAN DEMOGRAPHS/OCCUPANT DATA

Driver:	19 year old female
Height:	154.9 cm (61.0")
Weight:	65.8 kg (145 lb)
Manual Restraint System Usage:	3-point lap and shoulder belt system
Usage Source:	Vehicle inspection, driver interview
Eyeware:	Wire framed sunglasses with plastic lenses; contacted, damaged and displaced from face by deploying air bag
Vehicle Familiarity:	1 month, bought vehicle as used
Route Familiarity:	Weekly
Trip Plan:	En route to automotive repair facility
Mode of Transport From Scene:	Ambulance
Type of Medical Treatment:	Treated and released from a local hospital

DRIVER INJURIES

Injury	Injury Severity (AIS-90)	Injury Mechanism
Abrasions under left eye	Minor (290202.12)	Deploying driver's side air bag/sunglasses
Contusion with swelling over left anterior arm	Minor (790402.11)	Deploying driver's side air bag
Abrasions over both knees, not crash related	Minor (890202.11, 890202.12)	Ground during exit from vehicle (probable, no evidence of knee contact within vehicle)

DRIVER KINEMATICS

The driver of the 1995 Hyundai was in a normal posture pre-crash with both hands positioned on the steering wheel rim. The manually operated seat track was adjusted to a forward track position. Prior to the time of Calspan's inspection of the vehicle, the investigating officer stated that the seat track position been moved, however, the track position was set 2.5 cm (1.0"), the equivalent of two notches rearward of the full forward position. There was a total of 19.1 cm (7.5") of fore and aft seat track adjustment. The seat back support was reclined approximately 20 degrees to the fifth (5th) rearward adjustment

DRIVER KINEMATICS (CONT'D.)

point. The adjustable head restraint was elevated approximately 3.8 cm (1.5") above the seat back.

The driver was restrained by the vehicle's manual 3-point lap and shoulder belt system. Although there were minimal routine usage wear marks on the male tab of the latchplate, belt usage was confirmed by loading evidence on the polymer coating of the latchplate from loading against the belt webbing. The inboard surface of the latchplate (side exposed toward driver) was abraded with a patterned imprint from the webbing (refer to Photograph Nos. 43 and 44). The front seat belt systems were equipped with an energy management loop at the lower portion of the lap belt webbing, located 14.0-22.2 cm (5.5-8.75") above the floor anchorage point. The loop was contained within a plastic jacket which consealed a label advising replacement of the belt system if the label was exposed. The driver's loading force against the manual belt system during the crash was not sufficient to separate the loop and expose the label (refer to Photograph No. 41).

The driver was wearing blue cotton shorts, a black short-sleeve blouse, and sandals at the time of the crash. In addition, she was wearing a wristwatch on her left wrist, two rings on each hand, and wire framed sunglasses. She did not report damage to her clothing or accessories, however, the driver noted that she lost her sunglasses during the crash. The driver's face contacted the deploying air bag which deformed the sunglasses and separated the eyeware from her face. The sunglasses were found on the right front floor of the vehicle. Damage to the glasses included bending of the frames and separation (fractured from hinge) of the right ear arm (refer to Photograph No. 45).

Immediately prior to the crash, the driver was in an upright driving posture with both hands on the steering wheel as she attempted to redirect the vehicle from the CW yaw. She was subsequently displaced forward and to her left as a result of the vehicle's initial rotation, left side wheel curb impacts, and the vehicle's descent of the embankment. The supplemental air bag system probably deployed as a result of the curb impacts or the undercarriage impact with the earth embankment. A bag deployment, the driver remained in a near upright attitude and responded in a forward direction toward a longitudinal impact force.

The driver's face contacted the deploying air bag as the steering wheel was rotated approximately 90 degrees in a CW direction. This was evident by lipstick transfers that were horizontally oriented on the air bag with the steering wheel rotated to the 90 degree CW position (refer to Photograph Nos. 30-32). Irregular purple shade transfers were located on the bag 1.3-6.4 cm (0.5-2.5") right of center and 7.6-12.7 cm (3.0-5.0") below the horizontal centerline of the bag. These consisted of four transfers located directly outboard of the tether reinforcement stitching. The most pronounced lipstick transfer was from both lips and was located 3.8-9.5 cm (1.5-3.75") below the centerline of the bag and 1.9-5.7 cm (0.75-2.25") left of center. The lips were parted by a distance of approximately 2.3 cm (0.9"). Air bag

expansion and driver facial involvement with the bag separated her sunglasses from her face. The driver sustained abrasions under the left eye (AIS-1) from air bag/sunglass contact. In addition to the facial contact, the deploying driver's side air bag expanded against the anterior aspect of the driver's left forearm which resulted in a contusion with swelling of the arm. The contact probably displaced her left hand from the steering wheel rim, however, no injury or contact evidence resulted from the displacement. The driver's right hand probably separated from the steering wheel rim as a result of air bag contact against her right forearm. Although no injury occurred, the dorsal aspect of her right hand probably contacted and displaced the rear view mirror from its adjusted position. Mirror displacement was documented in Photograph No. 48. During the crash sequence, the driver's right hand probably contacted the windshield wiper lever that was positioned on a stalk mounted to the right side of the steering column. There was no damage to the switch assembly, however, the left wiper arm was fully extended against the left A-pillar and the right wiper arm was fractured at the cowl mounted linkage. It should be noted that the weather was clear and dry at the time of the crash with no precipitation.

As the vehicle initiated its rollover sequence, the driver moved on a lateral trajectory to her left and loaded the manual belt system. Her pelvic region continued to load the belt system as the vehicle continued to overturn onto its roof. The Hyundai slid on its roof and impacted a tree with the right A-pillar area which displaced the driver to her right. She remained properly restrained by the manual belt system and loaded the belt webbing in response to the non-horizontal (lateral) impact force as the driver's side air bag deflated. The driver's usage and loading against the belt system prevented her from possible ejection from the vehicle and/or injury from contact with interior components. Her loading force on the belt webbing produced abrasions at the latchplate, however, it did not separate the energy management loop.

Immediately following the impact events, the driver unfastened her manual belt system and checked the condition of the infant right front occupant who was restrained in a forward-facing infant restraint. The driver stated that the infant remained in his restraint and was hanging upside down in the vehicle. She attempted to open the left front door, however, the door was jammed closed. The driver, therefore rolled the left front window to the full open position. She unbuckled the infant from the restraint's integral 3-point harness and removed the infant from the restraint and handed the child to his mother through the left front window opening as she approached the final rest position of the vehicle. The driver subsequently exited the vehicle through the window opening and waited for emergency personnel to arrive on-scene. The driver sustained bilateral knee abrasions which probably occurred as she was exiting the vehicle. There was no evidence of knee contact within the vehicle.

RIGHT FRONT PASSENGER

Right Front Occupant:	3 month old infant male
Length:	58.4 cm (23.0")
Weight:	8.2 kg (18.0 lb)
Restraint Type:	Restrained by the integral 3-point harness in a rearward-facing Evenflo On-My-Way infant restraint. The infant restraint was secured to the vehicle by the manual 3-point lap and shoulder belt belt system.
Mode of Transport From Scene:	Ambulance
Type of Medical Treatment:	Transported to a local hospital for initial treatment and transferred to a second facility where the infant expired approximately five (5) hours following the crash

RIGHT FRONT PASSENGER INJURIES

Injury	Injury Severity (AIS 90)	Injury Mechanism
Skeletal		
Extensive basilar skull fractures bilaterally across the petrous temporal ridges and anteriorly in the temporal fossa and occipital regions	Severe (150206.4,8)	Deploying passenger side air bag
Multiple linear skull fractures posterior to the coronal suture, large linear fracture on the left extends from the sagittal suture to the zygomatic arch region	Moderate (150402.2,2)	Deploying passenger side air bag
Linear right skull fracture that extends posteriorly from the coronal suture to the mid parieto-occipital region which then extends from the base of the skull superiorly to the apex	Moderate (150402.2,1 150402.2,6)	Deploying passenger side air bag

Injury	Injury Severity (AIS-90)	Injury Mechanism
Internal		
Diffuse subdural blood (20 ml) superiorly, anteriorly, posteriorly, and inferiorly around cerebrum	Severe (140652.4,9)	Deploying passenger side air bag
Diffuse subdural blood extending around cerebellum	Severe (140442.4,6)	Deploying passenger side air bag
Diffuse subarachnoid blood in the cerebrum	Serious (140684.3,9)	Deploying passenger side air bag
Diffuse subarachnoid blood in the cerebellum	Serious (140466.3,6)	Deploying passenger side air bag
Mild cerebrum edema	Serious (140670.3,9)	Deploying passenger side air bag
Mild cerebellum edema	Serious (140454.3,6)	Deploying passenger side air bag
External		
1 x 0.4 cm abrasion over the right eye below the eyebrow	Minor (297402.1,1)	Right front seat back
1 x 1 cm abrasion over the bridge of the nose	Minor (290202.1,4)	Right front seat back
Distinct 2 x 2 cm subgaleal and galeal hematoma midline anterior to the coronal fissure	Minor (190402.1,5)	Right front seat back
Diffuse subgaleal and galeal contusion over both parieto-occipital regions	Minor (190402.1,0)	Deploying passenger side air bag/loading against the plastic shell of the child restraint

RIGHT FRONT PASSENGER KINEMATICS

The infant male occupant of the 1995 Hyundai was positioned in a rearward-facing Evenflo On-My-Way infant restraint that was secured in the right front position by the vehicle's manual 3-point lap and shoulder belt system. The infant was secured within the restraint by the integral 3-point harness system. The right front seat track was positioned 5.1 cm (2.0") rearward of the full forward track position. The infant restraint was positioned close to the mid mount passenger side air bag module assembly, however, the shell of the restraint was not within the path of the module cover flap. The driver stated that immediately prior to the

RIGHT FRONT PASSENGER KINEMATICS (CONT'D.)

crash sequence, the infant appeared to be asleep with his head turned slightly to his left, toward the right side of the vehicle. The infant restraint was properly positioned and locked into the base as documented in Photograph Nos. 71 and 72.

As the passenger side air bag deployed from the mid mount module assembly, the bag membrane expanded against the back side of the plastic shell and carrying handle of the restraint. The expanding air bag fractured the shell of the restraint between the harness slots and abraded the handle that was positioned over the top of the restraint. The child restraint was rotated in an upward and rearward direction by the expanding air bag into the right front seat back. The restraint subsequently rebounded from the seat back and came to rest secured by the vehicle's belt system as the Hyundai initiated the overturn sequence. The child remained secured in the restraint by the integral system as the vehicle impacted the tree with the right A-pillar area in a non-horizontal orientation.

The initial contact and expansion of the passenger side air bag against the rearward-facing infant restraint resulted diffuse subgaleal and galeal contusions over the parietao-occipital regions bilaterally, extensive basilar skull fractures, multiple linear skull fractures, a right linear skull fracture line, diffuse subdural blood, diffuse subarachnoid hemorrhage, and edema of the cerebrum and cerebellum. The rearward displacement of the infant restraint allowed the anterior aspect of the infant's head and face to contact the right front seat back support which resulted in an abrasion over the right eye, an abrasion over the bridge of the nose, and a distinct subgaleal and galeal hematoma, midline anterior to the coronal fissure.

The infant remained secured in the rearward facing restraint as the vehicle came to rest on its top off-road. The driver unfastened the infant from the integral harness and handed the infant to his mother through the left front

ATTACHMENT A:

SELECTED PRINTS

CRASH SCENE

1. Pre-crash trajectory of the 1995 Hyundai Accent.

2. Vehicle's trajectory at 45 m (150') prior to road departure.

3. Area where evasive action was initiated by the driver of the Hyundai.

4. Vehicle's trajectory at 15 m (50') prior to road departure.

5. Remainder of the right rear tire mark on the road surface.

6. Hyundai mounts barrier curb and traverses grassy area and sidewalk in a CW yaw.

7. Vehicle traverses embankment leading with left side.

8. 1.2 x 2.4 m (4 x 8') sign struck by left side of vehicle.

9. Fractured 10 x 10 cm (4 x 4") wooden sign posts.

10. Struck 23 cm (9") diameter tree.

11. Vehicle's final rest position in foreground and lookback view of overall trajectory.

12. Lookback view of vehicle's trajectory on the roadway.

VEHICLE EXTERIOR

13. Overall frontal view of the 1995 Hyundai.

14. Frontal undercarriage damage from embankment contact.

15. Sign post impact damage on left front fender and A-pillar.

16. Sign post impact damage on left rear door and C-pillar.

17. Overall left side view of the Hyundai.

18. Right rear three-quarter view of the Hyundai.

19. Right side damage that resulted from the tree impact.

20. Tree impact damage at the right A-pillar area.

21. Right front three-quarter view of the Hyundai.

22. Longitudinal view documenting the extent of lateral crush at the right A-pillar.

23. Close-up view of the tree impact damage.

24. Lateral displacement of the frontal structure that resulted from the right side tree impact.

25. Rollover contact damage across the hood of the Hyundai.

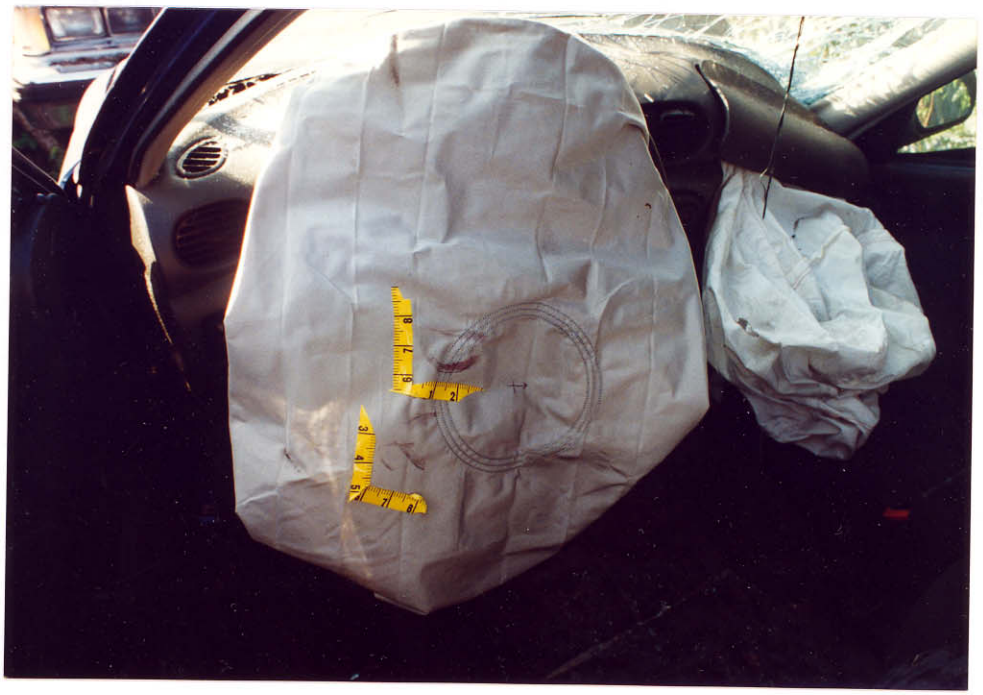
26. Close-up view of the laterally oriented abrasions.

27. Minimal roof crush from the rollover event.

28. Manufacturers identification label affixed to the left B-pillar.

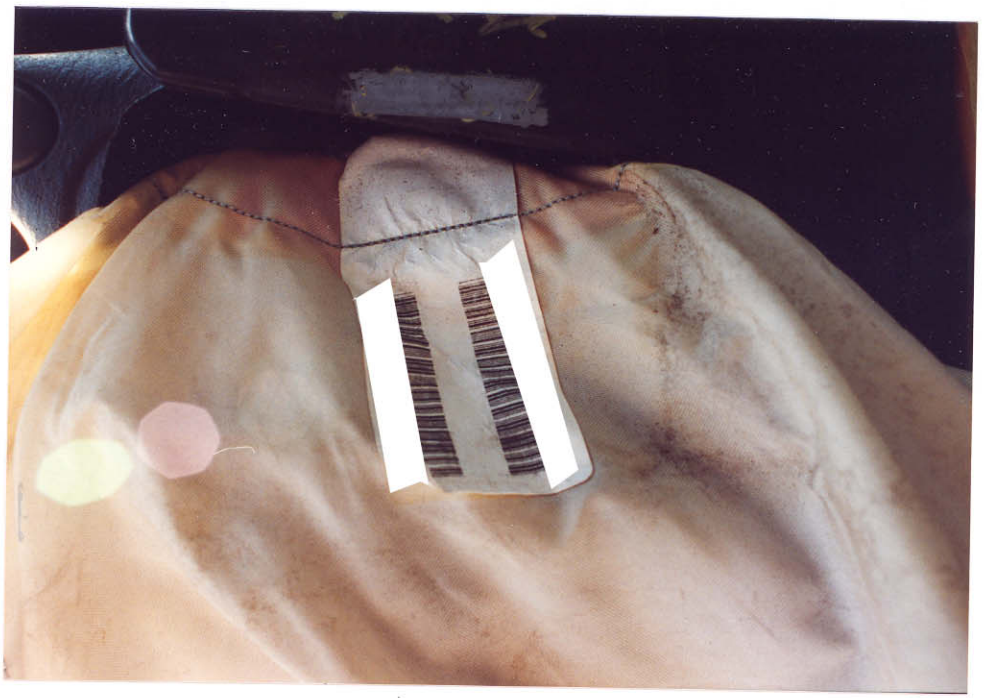
VEHICLE INTERIOR

29. & 30. Overall views of the vehicle's interior and the deployed air bags.



31. Driver lipstick transfers on the deployed driver's side air bag.

32. Close-up views of the lipstick transfers with the steering wheel rotated 90 degrees CW.



33. Bar-coded identification label affixed to the driver's bag at the 12 o'clock position.

34. Overall view of the steering wheel and the driver's side air bag module cover flaps.

35. & 36. Close-up views of the module cover flaps.

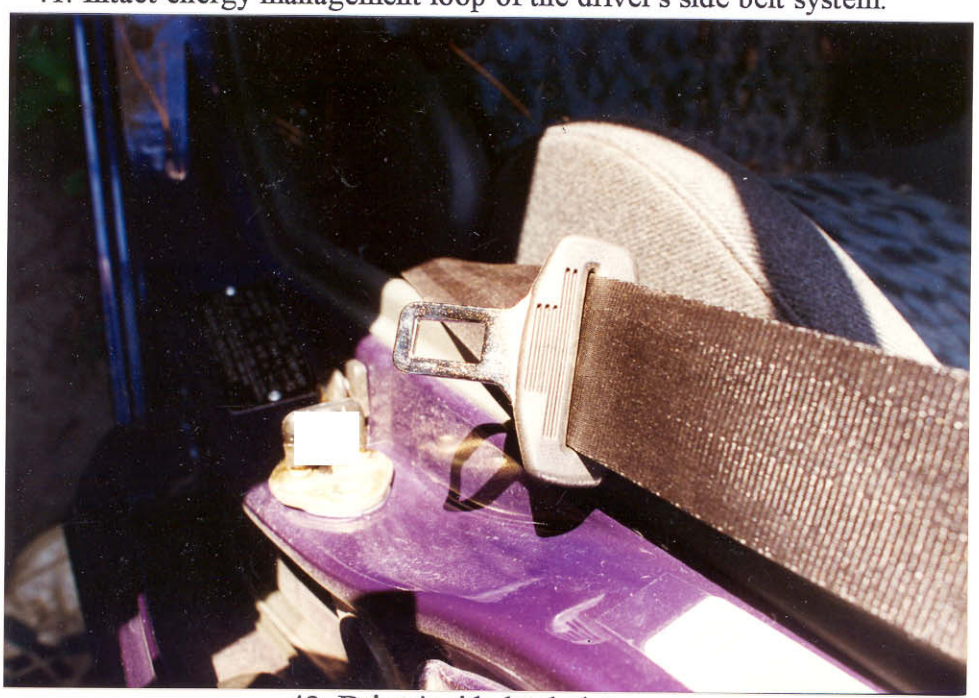
37. Perpendicular view of the deployed driver's side air bag and driver's seat.

38. Driver's side knee bolster (no contact evidence) and deformed brake pedal.

39. Driver's side adjusted head restraint position.

40. Overall view of the driver's side manual 3-point lap and shoulder belt system.

41. Intact energy management loop of the driver's side belt system.



42. Driver's side latchplate.

43. Belt webbing abrasions to the plastic latchplate cover.

44. Belt webbing abrasion at the inboard slot of the latchplate.

45. Deformed sunglasses worn by the driver of the Hyundai.

46. Air bag advisories on sunvisors.

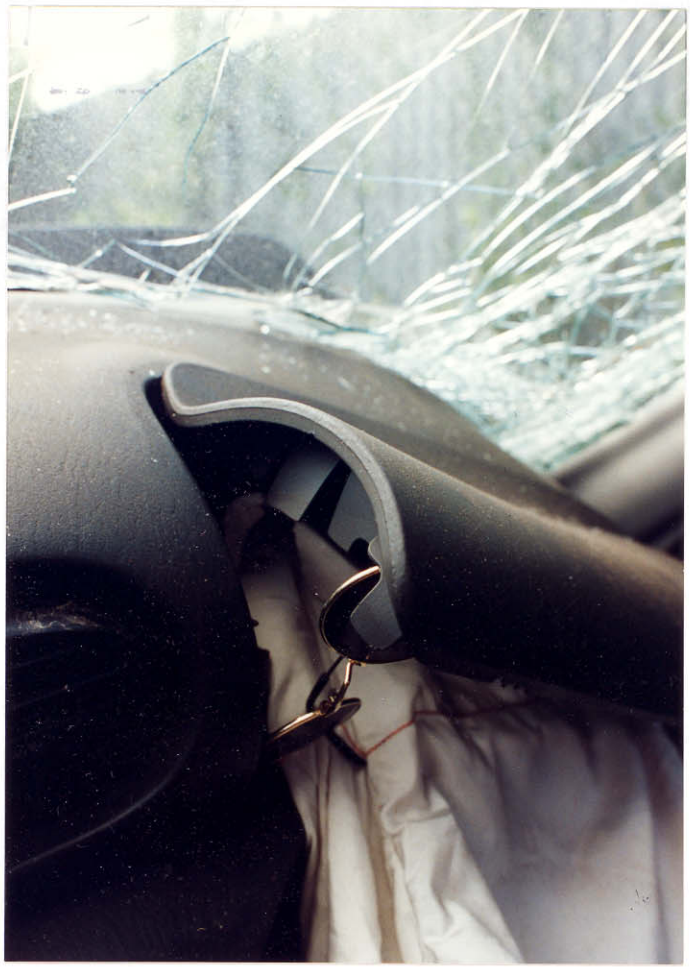
47. Close-up view of the advisory label

48. Caution labels on the inside surface of the sunvisors.

49. Close-up view of the caution label.

50. Overall view of the deployed passenger side air bag.

51. & 52. Views of the location and contour of the passenger side air bag module cover flap.



53. Close-up view of the contour of the passenger side air bag module cover flap.

54. Leading edge of the passenger side module cover flap.

55. Overall view of the top of the deployed passenger side air bag.

56. Probable fabric transfers from the rearward-facing child restraint.

57. Close-up view of the probable fabric transfers.

58. Horizontal tether seams on the face of the passenger side air bag.

59. Additional view of the tether seams.

60. Underside of the passenger side air bag.

61. Perpendicular view of the deployed passenger side air bag.

62. Inboard 5.1 cm (2.0") diameter vent port.

63. Internal tether of the passenger side air bag.

64. Extended passenger side shoulder belt webbing.

65. Adjustable upper anchorage (D-ring) of the passenger side belt system.

66. Probable air bag fabric transfer on the right front shoulder belt webbing.

67. Circular transfers on the right front shoulder belt webbing.

68. Abrasion on belt webbing from plastic extrusion located at the outboard aspect of the right front seat cushion/seat back juncture.

CHILD RESTRAINT

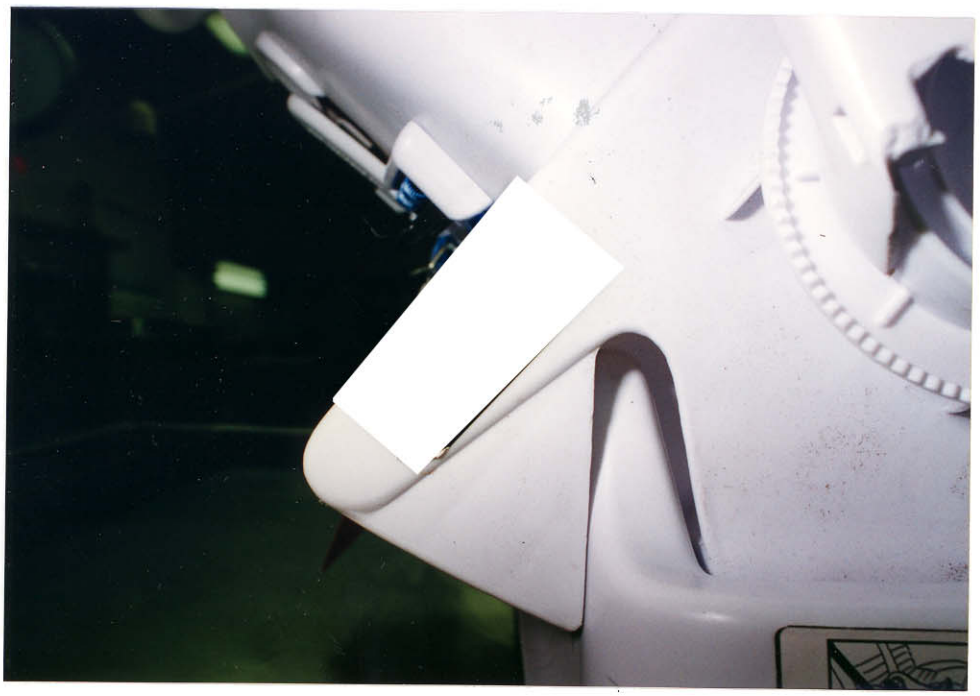
69. Frontal view of the Evenflo On My Way infant restraint.

70. Integral 3-point harness of the restraint.

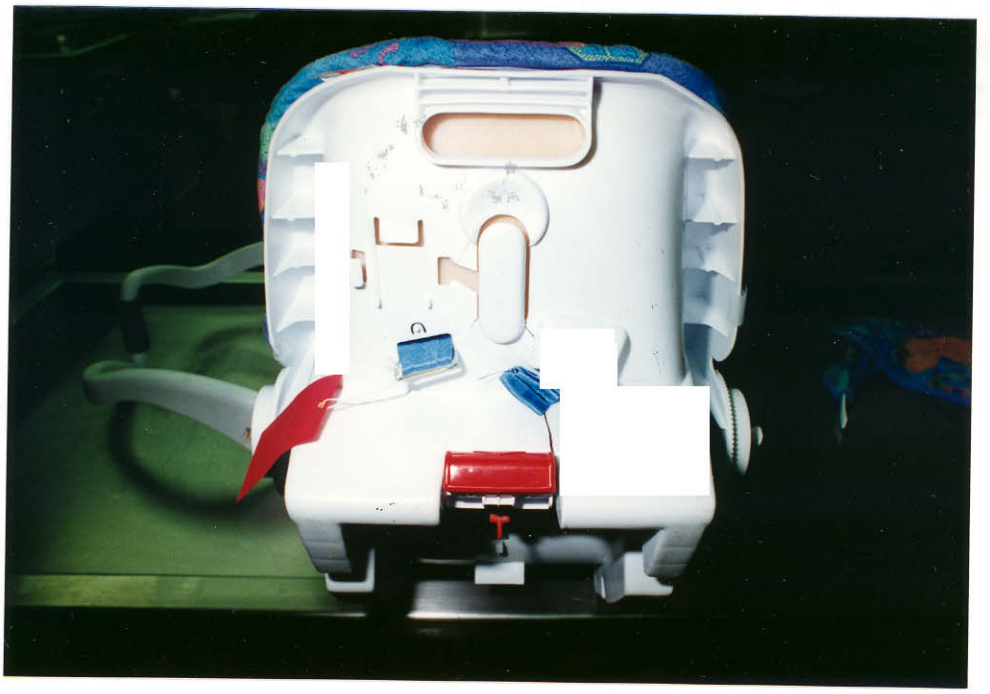
71. Left side view of the restraint positioned in the removable base unit.

72. Right side view of the restraint.

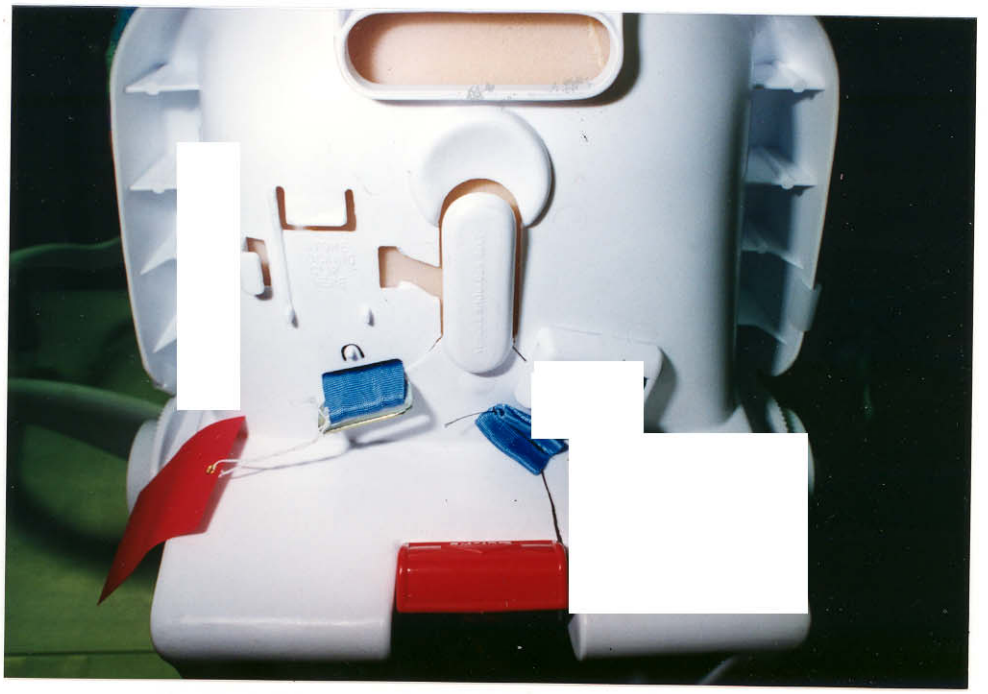
73. Fractured right side pivot of the infant restraint.



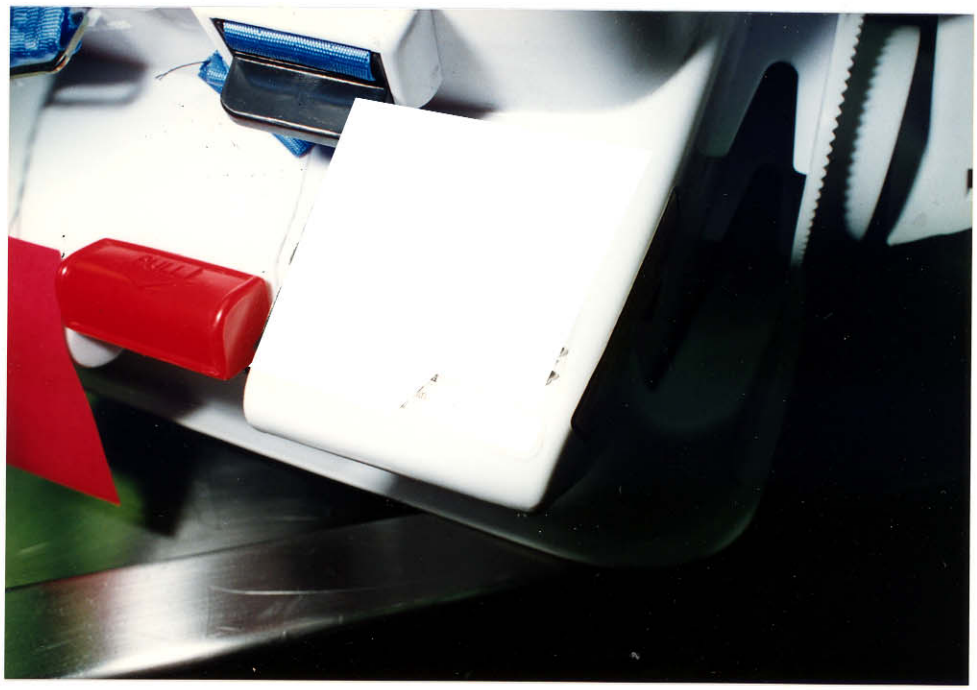
74. Warning label advising against placing the restraint
in the right front of a vehicle equipped with a passenger side air bag.



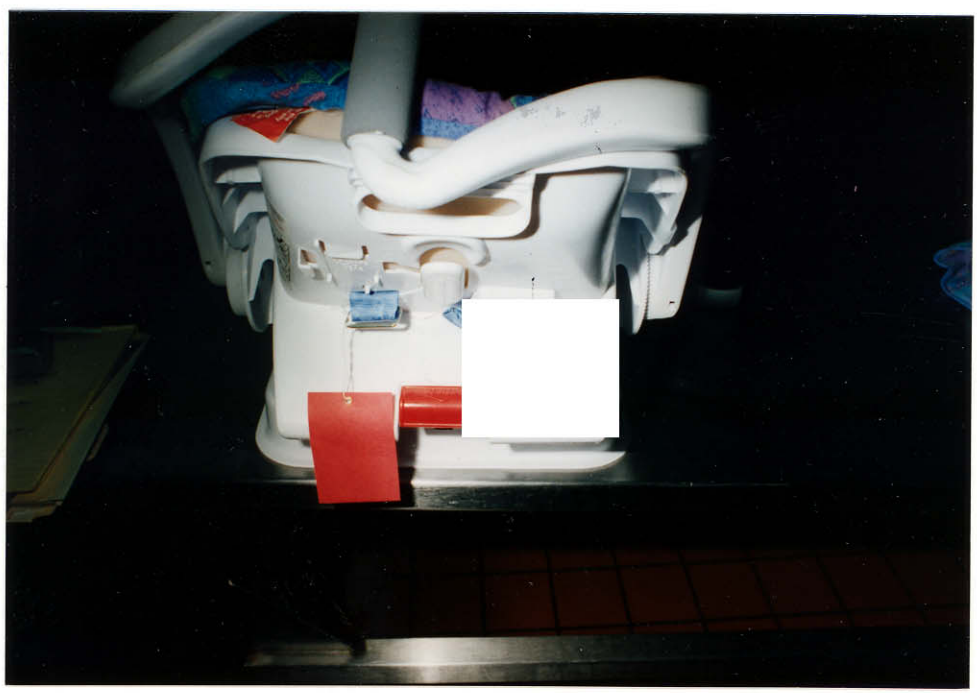
75. Rear view of the Evenflo infant restraint.



76. Fracture points of the rear (leading) side of the plastic shell of the restraint.



77. Instructional label affixed to the lower rear side of the restraint.

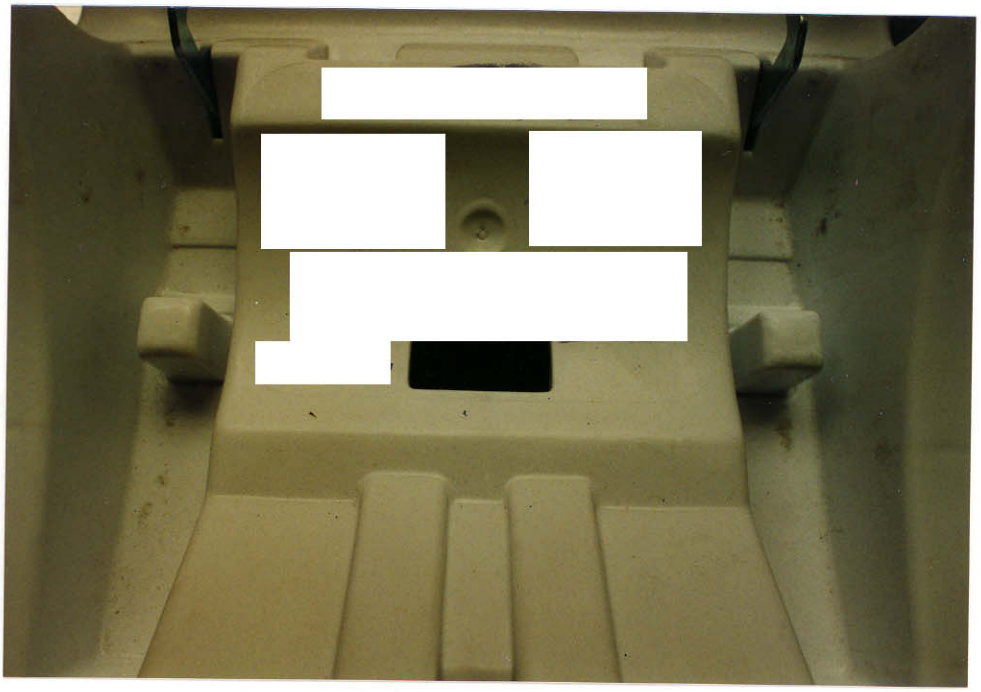


78. Off-set handle configuration in its position at time of deployment.

79. Air bag induced abrasions to the plastic carrying handle.

80. Additional view of the abraded carrying handle.

81. Sun canopy which mounted over top of infant restraint.



82. Embossed manufacturer data on base of restraint.

83. Locking clip supplied with infant restraint found on rear seat cushion; unknown if used at time of crash.

U.S. Department of Transportation
National Highway Traffic Safety Administration

GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. ~~Primary Sampling Unit Number~~ ____
2. Case Number - ~~Stratum~~ 9608
3. Vehicle Number 01

VEHICLE IDENTIFICATION

4. Vehicle Model Year 95
   Code the last two digits of the model year
   (99) Unknown

5. Vehicle Make (specify): 55
   HYUNDAI
   Applicable codes are found in your NASS Data Collection, Coding and Editing Manual.
   (99) Unknown

6. Vehicle Model (specify): 036
   ACCENT
   Applicable codes are found in your NASS Data Collection, Coding and Editing Manual.
   (999) Unknown

7. Body Type 04
   Note: Applicable codes may be found on the back of this page.

8. Vehicle Identification Number
   KMHVE14N7SU_____
   1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
   Left justify; Slash zeros and letter Z (Ø and Z)
   No VIN—Code all zeros
   Unknown—Code all nines

9. Vehicle Special Use (This Trip) 0
   (0) No special use
   (1) Taxi
   (2) Vehicle used as school bus
   (3) Vehicle used as other bus
   (4) Military
   (5) Police
   (6) Ambulance
   (7) Fire truck or car
   (8) Other (specify): _____
   (9) Unknown

OFFICIAL RECORDS

10. Police Reported Vehicle Disposition 1
    (0) Not towed due to vehicle damage
    (1) Towed due to vehicle damage
    (9) Unknown

11. Police Reported Travel Speed 068
    Code to the nearest kmph (NOTE: 000 means less than 0.5 kmph)
    (160) 159.5 kmph and above
    (999) Unknown
    40-45
    42.5 mph X 1.6093 = 68.4 kmph

12. Speed Limit 072
    (000) No statutory limit
    Code posted or statutory speed limit in kmph
    (999) Unknown
    45 mph X 1.6093 = ____ kmph

13. Police Reported Alcohol Presence For Driver 0
    (0) No alcohol present
    (1) Yes alcohol present
    (7) Not reported
    (8) No driver present
    (9) Unknown

14. Alcohol Test Result For Driver 96
    Code actual value (decimal implied before first digit—0.xx)
    (95) Test refused
    (96) None given
    (97) AC test performed, results unknown
    (98) No driver present
    (99) Unknown
    Source: [redacted]

15. Police Reported Other Drug Presence For Driver 0
    (0) No other drug(s) present
    (1) Yes other drug(s) present
    (7) Not reported
    (8) No driver present
    (9) Unknown

16. Other Drug Specimen Test Result For Driver 0
    (0) No specimen test given
    (1) Drug(s) not found in specimen
    (2) Drug(s) found in specimen, (specify):
    _____
    (3) Specimen test given, results unknown or not obtained
    (8) No driver present
    (9) Unknown if specimen test given

17. Driver's Zip Code [redacted]
    (00001) Driver not a resident of U.S. or territories
    _____ Code actual 5-digit zip code
    (99998) No driver present
    (99999) Unknown

18. Driver's Race/Ethnic Origin 3
    (1) White (non-Hispanic)
    (2) Black (non-Hispanic)
    (3) White (Hispanic)
    (4) Black (Hispanic)
    (5) American Indian, Eskimo or Aleut
    (6) Asian or Pacific Islander
    (7) Other (specify):
    _____
    (8) No driver present
    (9) Unknown

CODES FOR BODY TYPE

CDS APPLICABLE VEHICLES

Automobiles

(01) Convertible (excludes sun-roof, t-bar)
(02) 2-door sedan, hardtop, coupe
(03) 3-door/2-door hatchback
(04) 4-door sedan, hardtop
(05) 5-door/4-door hatchback
(06) Station wagon (excluding van and truck based)
(07) Hatchback, number of doors unknown
(08) Other automobile type (specify):

_____

(09) Unknown automobile type

Automobile Derivatives

(10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
(11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
(12) Large limousine - more than four side doors or stretched chassis
(13) Three-wheel automobile or automobile derivative

Utility Vehicles (≤ 4,536 kgs GVWR)

(14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Passport, Samurai, Sidekick, Rocky)
(15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Hummer, Landcruiser, Rover, Scout, Yukon)
(16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
(19) Utility, unknown body type

Van Based Light Trucks (≤ 4,536 kgs GVWR)

(20) Minivan (Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Vista, Aerostar, Windstar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Expo Wagon, Vanagon/Camper.)
(21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
(22) Step van or walk-in van (≤ 4,536 kgs GVWR)
(23) Van based motorhome (≤ 4,536 kgs GVWR)
(24) Van based school bus (≤ 4,536 kgs GVWR)
(25) Van based other bus (≤ 4,536 kgs GVWR)
(28) Other van type (Hi-Cube Van, Kary) (specify):

_____

(29) Unknown van type

Light Conventional Trucks (Pickup style cab, ≤ 4,536 kgs GVWR)

(30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10 , T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
(31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500, T100)
(32) Pickup with slide-in camper
(33) Convertible pickup
(39) Unknown pickup style light conventional truck type

Other Light Trucks (≤ 4,536 kgs GVWR)

(40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
(41) Truck based panel
(42) Light truck based motorhome (chassis mounted)
(45) Other light conventional truck type
(48) Unknown light truck type
(49) Unknown light vehicle type (automobile, utility, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)

(50) School bus (designed to carry students, not cross country or transit)
(58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify):

_____

(59) Unknown bus type

Medium/Heavy Trucks (> 4,536 kgs GVWR)

(60) Step van (> 4,536 kgs GVWR)
(61) Single unit straight truck (4,536 kgs < GVWR ≤ 8,845 kgs)
(62) Single unit straight truck (8,845 kgs < GVWR ≤ 11,793 kgs)
(63) Single unit straight truck (> 11,793 kgs GVWR)
(64) Single unit straight truck, GVWR unknown
(65) Medium/heavy truck based motorhome
(67) Truck-tractor with no cargo trailer
(68) Truck-tractor pulling one trailer
(69) Truck-tractor pulling two or more trailers
(70) Truck-tractor (unknown if pulling trailer)
(78) Unknown medium/heavy truck type
(79) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

(80) Motorcycle
(81) Moped (motorized bicycle)
(82) Three-wheel motorcycle or moped
(88) Other motored cycle (minibike, motorscooter) (specify):_____
(89) Unknown motored cycle type

Other Vehicles

(90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
(91) Snowmobile
(92) Farm equipment other than trucks
(93) Construction equipment other than trucks
(97) Other vehicle type
(99) Unknown body type

PRECRASH ENVIRONMENTAL DATA

19. Relation To Interchange Or Junction: 0
(0) Non-interchange area and non-junction
(1) Interchange area related

Non-Interchange junctions
(2) Intersection related
(3) Driveway, alley access related
(4) Other junction (specify) _____
(5) Unknown type of junction
(9) Unknown

20. Trafficway Flow: 1
(0) Not physically divided (two way traffic)
(1) Divided trafficway-median strip without positive barrier
(2) Divided trafficway-median strip with positive barrier
(3) One way traffic
(9) Unknown

21. Number Of Travel Lanes: 2
(1) One
(2) Two
(3) Three
(4) Four
(5) Five
(6) Six
(7) Seven or more
(9) Unknown

22. Roadway Alignment: 3
(1) Straight
(2) Curve right
(3) Curve left
(9) Unknown

23. Roadway Profile: 1
(1) Level
(2) Uphill grade (>2%)
(3) Hill crest
(4) Downhill grade (>2%)
(5) Sag
(9) Unknown

24. Roadway Surface Type: 2
(1) Concrete
(2) Bituminous (asphalt)
(3) Brick or block
(4) Slag, gravel, or stone
(5) Dirt
(8) Other (specify): _____
(9) Unknown

25. Roadway Surface Condition: 1
(1) Dry
(2) Wet
(3) Snow or slush
(4) Ice
(5) Sand, dirt, or oil
(8) Other (specify): _____
(9) Unknown

26. Light Conditions: 1
(1) Daylight
(2) Dark
(3) Dark, but lighted
(4) Dawn
(5) Dusk
(9) Unknown

27. Atmospheric Conditions: 0
(0) No adverse atmospheric-related driving conditions
(1) Rain
(2) Sleet/hail
(3) Snow
(4) Fog
(5) Rain and fog
(6) Sleet and fog
(7) Other (e.g., smog, smoke, blowing sand or dust, etc.) (specify): _____
(9) Unknown

28. Traffic Control Device: 0
(0) No traffic control(s)
(1) Traffic control signal (not RR crossing)

Regulatory
(2) Stop sign
(3) Yield sign
(4) School zone sign
(5) Other regulatory sign (specify): _____
(6) Warning sign (not RR crossing)
(7) Unknown sign
(8) Miscellaneous/other controls including RR controls (specify): _____
(9) Unknown

29. Traffic Control Device Functioning: 0
(0) No traffic control device
(1) Traffic control device not functioning (specify): _____
(2) Traffic control device functioning properly
(9) Unknown

PRECRASH DRIVER RELATED DATA

30. Driver's Distraction/Inattention To Driving (Prior To Recognition Of Critical Event) 01
(00) No driver present
(01) Attentive or not distracted
(02) Looked but did not see

Distractions
(03) By other occupant(s), (specify): _____
(04) By moving object in vehicle (specify): _____
(05) While talking or listening to cellular phone (specify location and type of phone): _____
(06) While dialing cellular phone (specify location and type of phone): _____
(07) While adjusting climate controls
(08) While adjusting radio, cassette, CD (specify): _____
(09) While using other device/controls integral to vehicle (specify): _____
(10) While using or reaching for device/object brought into vehicle (specify): _____
(11) Sleepy or fell asleep
(12) Distracted by outside person, object, or event (specify): _____
(13) Eating or drinking
(14) Smoking related
(97) Distracted/inattentive, details unknown
(98) Other, distraction (specify): _____
(99) Unknown

31. Pre-Event Movement (Prior to Recognition of Critical Event) 14
(00) No driver present
(01) Going straight
(02) Decelerating in traffic lane
(03) Accelerating in traffic lane
(04) Starting in traffic lane
(05) Stopped in traffic lane
(06) Passing or overtaking another vehicle
(07) Disabled or parked in travel lane
(08) Leaving a parking position
(09) Entering a parking position
(10) Turning right
(11) Turning left
(12) Making a U-turn
(13) Backing up (other than for parking position)
(14) Negotiating a curve
(15) Changing lanes
(16) Merging
(17) Successful avoidance maneuver to a previous critical event
(97) Other (specify): _____
(99) Unknown

32. Critical Precrash Event 60

THIS VEHICLE LOSS OF CONTROL DUE TO:
(01) Blow out or flat tire
(02) Stalled engine
(03) Disabling vehicle failure (e.g., wheel fell off) (specify): _____
(04) Non-disabling vehicle problem (e.g., hood flew up) (specify): _____
(05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): _____
(06) Traveling too fast for conditions
(08) Other cause of control loss (specify): _____
(09) Unknown cause of control loss

THIS VEHICLE TRAVELLING
(10) Over the lane line on left side of travel lane
(11) Over the lane line on right side of travel lane
(12) Off the edge of the road on the left side
(13) Off the edge of the road on the right side
(14) End departure
(15) Turning left at intersection
(16) Turning right at intersection
(17) Crossing over (passing through) intersection
(18) This vehicle decelerating
(19) Unknown travel direction

OTHER MOTOR VEHICLE IN LANE
(50) Other vehicle stopped
(51) Traveling in same direction with lower steady speed
(52) Traveling in same direction while decelerating
(53) Traveling in same direction with higher speed
(54) Traveling in opposite direction
(55) In crossover
(56) Backing
(59) Unknown travel direction of other motor vehicle in lane

OTHER MOTOR VEHICLE ENCROACHING INTO LANE
(60) From adjacent lane (same direction)—over left lane line
(61) From adjacent lane (same direction)—over right lane line
(62) From opposite direction—over left lane line
(63) From opposite direction—over right lane line
(64) From parking lane
(65) From crossing street, turning into same direction
(66) From crossing street, across path
(67) From crossing street, turning into opposite direction
(68) From crossing street, intended path not known
(70) From driveway, turning into same direction
(71) From driveway, across path
(72) From driveway, turning into opposite direction
(73) From driveway, intended path not known
(74) From entrance to limited access highway
(78) Encroachment by other vehicle—details unknown

PEDESTRIAN, PEDALCYCLIST, OR OTHER NONMOTORIST
(80) Pedestrian in roadway
(81) Pedestrian approaching roadway
(82) Pedestrian—unknown location
(83) Pedalcyclist or other nonmotorist in roadway (specify): _____
(84) Pedalcyclist or other nonmotorist approaching roadway, (specify): _____
(85) Pedalcyclist or other nonmotorist—unknown location (specify): _____

OBJECT OR ANIMAL
(87) Animal in roadway
(88) Animal approaching roadway
(89) Animal—unknown location
(90) Object in roadway
(91) Object approaching roadway
(92) Object—unknown location
(98) Other critical precrash event (specify): _____
(99) Unknown

33. Attempted Avoidance Maneuver 09
- (00) No driver present
- (01) No avoidance maneuver
- (02) Braking (no lockup)
- (03) Braking (lockup)
- (04) Braking (lockup unknown)
- (05) Releasing brakes
- (06) Steering left
- (07) Steering right
- (08) Braking and steering left
- (09) Braking and steering right
- (10) Accelerating
- (11) Accelerating and steering left
- (12) Accelerating and steering right
- (98) Other action (specify): _____
- (99) Unknown

34. Pre-Impact Stability 3
- (0) No driver present
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify): _____
- (9) Precrash stability unknown

35. Pre-Impact Location 4
- (0) No driver present
- (1) Stayed in original travel lane
- (2) Stayed on roadway but left original travel lane
- (3) Stayed on roadway, not known if left original travel lane
- (4) Departed roadway
- (5) Remained off roadway
- (6) Returned to roadway
- (7) Entered roadway
- (9) Unknown

36. Accident Type 02
(Note: Applicable codes on back of this page)
- (00) No impact
  Code the number of the diagram that best describes the accident circumstance
- (98) Other accident type (specify): _____
- (99) Unknown

STOP HERE IF GV07 DOES NOT EQUAL 01 - 49

OCCUPANT RELATED

37. Driver Presence in Vehicle: 1
(0) Driver not present
(1) Driver present
(9) Unknown

38. Number of Occupants This Vehicle: 02
(00-96) Code actual number of occupants for this vehicle
(97) 97 or more
(99) Unknown

39. Number of Occupant Forms Submitted: 02

AIR BAG RELATED

40. Is this an AOPS Vehicle? 1
(0) No (includes unknown)
(1) Yes - researcher determined
(2) VIN determined air bag system
(3) VIN determined automatic (passive) belts
(4) VIN determined air bag and automatic (passive) belts

41. Air Bag(s) Deployment, First Seat Frontal: 6
(0) Not equipped or not available
(1) No air bags deployed

Single Air Bag Vehicle
(2) Driver air bag deployed
(3) Driver air bag, unknown if deployed

Multiple Air Bag Vehicle
(4) Driver side only deployed
(5) Passenger side only deployed
(6) Driver and passenger side deployed
(7) Driver and passenger side unknown if deployed
(8) Air bag(s) deployed, details unknown
(9) Unknown

42. Air Bag(s) Deployment, Other Than First Seat Frontal: 0
(0) Not equipped with an "other" air bag
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, details unknown
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

Specify type of "other" air bag present: _____

VEHICLE WEIGHT ITEMS

43. Vehicle Curb Weight: 0,930
____ Code weight to nearest 10 kilograms.
(045) Less than 454 kilograms
(612) 6,124 kilograms or more
(999) Unknown
2,057 lbs X .4536 = 0,933 kgs

Source: _____

44. Vehicle Cargo Weight: 0,000
____ Code weight to nearest 10 kilograms.
(000) Less than 5 kilograms
(454) 4,536 kilograms or more
(999) Unknown
___,___ lbs X .4536 = ___,___ kgs

Source: _____

ROLLOVER DATA

45. Rollover: 02
(00) No rollover (no overturning)

Rollover (primarily about the longitudinal axis)
(01-16) Code the number of quarter turns
(17) Rollover, 17 or more quarter turns (specify): _____
(98) Rollover--end-over-end (i.e., primarily about the lateral axis)
(99) Rollover (overturn), details unknown

46. Rollover Initiation Type: 05
(00) No rollover
(01) Trip-over
(02) Flip-over
(03) Turn-over
(04) Climb-over
(05) Fall-over
(06) Bounce-over
(07) Collision with another vehicle
(08) Other rollover initiation type specify): _____
(98) Rollover--end-over-end
(99) Unknown rollover initiation type

47. Location of Rollover Initiation: 4
(0) No rollover
(1) On roadway
(2) On shoulder—paved
(3) On shoulder—unpaved
(4) On roadside or divided trafficway median
(8) Rollover--end-over-end
(9) Unknown

48. Rollover Initiation Object Contacted: 31
(Note: Applicable codes on back of page)

49. Location on Vehicle Where Initial Principal Tripping Force Is Applied: 6
(0) No rollover
(1) Wheels/tires
(2) Side plane
(3) End plane
(4) Undercarriage
(5) Other location on vehicle (specify): _____
(6) Non-contact rollover forces (specify): _____
(8) Rollover--end-over-end
(9) Unknown

50. Direction of Initial Roll: 2
(0) No rollover
(1) Roll right - primarily about the longitudinal axis
(2) Roll left - primarily about the longitudinal axis
(8) Rollover--end-over-end
(9) Unknown roll direction

CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

(00) No rollover
(01-30) — Vehicle Number

Noncollision
(31) Turn-over — fall-over
(32) No rollover impact initiation (end-over-end)
(34) Jackknife

Collision With Fixed Object
(41) Tree (≤ 10 cm in diameter)
(42) Tree (> 10 cm in diameter)
(43) Shrubbery or bush
(44) Embankment

(45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
(50) Pole or post (≤ 10 cm in diameter)
(51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
(52) Pole or post (> 30 cm in diameter)
(53) Pole or post (diameter unknown)

(54) Concrete traffic barrier
(55) Impact attenuator
(56) Other traffic barrier (includes guardrail) (specify):_____

(57) Fence
(58) Wall
(59) Building
(60) Ditch or culvert
(61) Ground
(62) Fire hydrant
(63) Curb
(64) Bridge
(68) Other fixed object (specify):

_____

(69) Unknown fixed object

Collision with Nonfixed Object
(70) Passenger car, light truck, van, or other vehicle not in-transport
(71) Medium/heavy truck or bus not in-transport
(76) Animal
(77) Train
(78) Trailer, disconnected in transport
(79) Object fell from vehicle in-transport
(88) Other nonfixed object (specify):

_____

(89) Unknown nonfixed object

(98) Other event (specify):

_____

(99) Unknown event or object

OVERRIDE/UNDERRIDE (THIS VEHICLE)

51. Front Override/Underride (this Vehicle) 0

52. Rear Override/Underride (this Vehicle) 0

(0) No override/underride, or not an end-to-end impact between two CDS applicable vehicles, and no medium/heavy truck or bus underride

Override (see specific CDC)
[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]
(1) 1st CDC
(2) 2nd CDC
(3) Other not automated CDC (specify):

_____

Underride (see specific CDC)
[Between 2 CDS applicable vehicles (Bodytype, GV07 = 1-49)]
(4) 1st CDC
(5) 2nd CDC
(6) Other not automated CDC (specify):

_____

(7) Medium/heavy truck or bus override (of any configuration)
(9) Unknown

HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value
(996) Non-horizontal impact
(997) Noncollision
(998) Impact with object
(999) Unknown

53. Heading Angle For This Vehicle 996

54. Heading Angle For Other Vehicle 998

RECONSTRUCTION DATA

55. Towed Trailing Unit 0
(0) No towed unit
(1) Yes—towed trailing unit
(9) Unknown

56. Documentation of Trajectory Data for This Vehicle 1
(0) No
(1) Yes

57. Post Collision Condition of Tree or Pole (For Highest Delta V) 1
(0) Not collision (for highest delta V) with tree or pole
(1) Not damaged
(2) Cracked/sheared
(3) Tilted <45 degrees
(4) Tilted ≥45 degrees
(5) Uprooted tree
(6) Separated pole from base
(7) Pole replaced
(8) Other (specify):

_____

(9) Unknown

ACCIDENT RECONSTRUCTION PROGRAMS HIGHEST DELTA V

58. Basis for Total (Resultant) Delta V (highest) 06

(00) No vehicle inspection

Delta V Calculated
(01) Reconstruction program-damage only routine
(02) Reconstruction program-damage and trajectory routine
(03) Missing vehicle algorithm

Delta V Not Calculated
(04) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.

All vehicles within scope (CDC applicable) of reconstuction program but one of the collision conditions is beyond the scope of the reconstruction program or other acceptable reconstruction technique, regardless of adequacy of damage data.

(05) Rollover
(06) Other non-horizontal forces
(07) Sideswipe type damage
(08) Severe override
(09) Yielding object
(10) Overlapping damage
(11) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available, (specify):

_____

_____

(98) Other, (specify): _____

_____

COMPUTER GENERATED CRASH SEVERITY

59. Total Delta V — Highest: 999

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
(160) 159.5 kmph and above
(999) Unknown

60. Longitudinal Component of Delta V — Highest: +- 999

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: __000 means greater than -0.5 kmph and less than +0.5 kmph)
(±160) ±159.5 kmph and above
(__999) Unknown

61. Lateral Component of Delta V — Highest: +- 999

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: __000 means greater than -0.5 kmph and less than +0.5 kmph)
(±160) ±159.5 kmph and above
(__999) Unknown

62. Energy Absorption — Highest: 999,900

_____ Nearest 100 joules (highest)

_____ Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)
(9997) 999,650 joules or more
(9999) Unknown

63. Impact Speed — Highest: 999

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
(160) 159.5 kmph and above
(998) Trajectory algorithm not run
(999) Unknown

DELTA V CONFIDENCE LEVEL

64. Confidence In Reconstruction Program Results (For Highest Delta V): 0
(0) No reconstruction
(1) Collision fits model — results appear reasonable
(2) Collision fits model — results appear high
(3) Collision fits model — results appear low
(4) Borderline reconstruction — results appear reasonable

OTHER SPEED ESTIMATE

65. Barrier Equivalent Speed — Highest: 999

_____ Nearest kmph (highest)

_____ Nearest kmph (secondary)

(NOTE: 000 means less than 0.5 kmph)
(160) 159.5 kmph and above
(999) Unknown

ESTIMATED DELTA V

66. Estimated Highest Delta V (Researcher Determined) 2
(0) Reconstruction Delta V coded

Estimated Delta V
(1) Less than 10 kmph
(2) ≥ 10 kmph but < 25 kmph
(3) ≥ 25 kmph but < 40 kmph
(4) ≥ 40 kmph but < 55 kmph
(5) ≥ 55 kmph

Other estimates of damage severity
(6) Minor
(7) Moderate
(8) Severe

(9) Unknown

INSPECTION TYPE

67. Type of Vehicle Inspection 3
(0) No inspection
(1) Vehicle fully repaired-no damage evident
(2) Partial inspection (specify): _____
(3) Complete inspection

DELTA V EVENT NUMBER

68. Delta V Event Number 6
_____ Code the accident event sequence number that resulted in the Delta V that has been coded above for this vehicle
(99) Unknown

***** IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV67 = 0), *****

DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS

***** IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE *****

THE EXTERIOR VEHICLE, INTERIOR VEHICLE,

OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.

U.S. Department of Transportation
National Highway Traffic Safety Administration

EXTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. ~~Primary Sampling Unit Number~~ ____
2. Case Number - Stratum 96-08
3. Vehicle Number 01

VEHICLE IDENTIFICATION

VIN KMHVF14N7SU_____ Model Year 95

Vehicle Make (specify): HYUNDAI Vehicle Model (specify): ACCENT

LOCATOR

Locate the end of the damage with respect to the vehicle's damaged center point or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L	Location of Max Crush
6	RIGHT SIDE	RIGHT SIDE,	7.6cm rearward of (R) A-pillar

CRUSH PROFILE IN CENTIMETERS

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

Specific Impact Number	Plane of Impact C-Measurements	Direct Damage Width (CDC)	Direct Damage Max Crush	Field L	C_1	C_2	C_3	C_4	C_5	C_6	±D
6	MID DOOR LEVEL	24.1	28.3	152.4	0	3.8	19.7	36.8	2.9	0	+88.6

ORIGINAL SPECIFICATIONS WORK SHEET

Wheelbase	94.5	inches	x	2.54	=	240 cm
Overall Length	162.1	inches	x	2.54	=	412 cm
Maximum Width	63.7	inches	x	2.54	=	162 cm
Curb Weight	2,057	pounds	x	.4536	=	0.933 kg
Average Track	55.7	inches	x	2.54	=	141 cm
Front Overhang	___.___	inches	x	2.54	=	___ cm
Rear Overhang	___.___	inches	x	2.54	=	___ cm
Undeformed End Width	___.___	inches	x	2.54	=	___ cm
Engine Size: cyl./displ.	____	cc	x	.001	=	1.5 L
	___	CID	x	.0164	=	___.___ L

VEHICLE DAMAGE SKETCH

TIRE—WHEEL DAMAGE

a. Rotation physically restricted		b. Tire deflated	
RF	2	RF	2
LF	2	LF	1
RR	2	RR	2
LR	2	LR	1

(1) Yes (2) No (8) NA (9) Unk.

TYPE OF TRANSMISSION

☐ Manual ☒ Automatic

END SHIFT ≥ 10 CM

☐ Yes ☐ No

ORIGINAL SPECIFICATIONS

Wheelbase	240	cm
Overall Length	412	cm
Maximum Width	162	cm
Curb Weight	933	kg
Average Track	141	cm
Front Overhang		cm
Rear Overhang		cm
Undeformed End Width		cm
Engine Size: cyl./displ.	1.5	L

WHEEL STEER ANGLES

(For locked front wheels or displaced rear axles only)

RF ± ____ ____ °
LF ± ____ ____ °
RR ± ____ ____ °
LR ± ____ ____ °

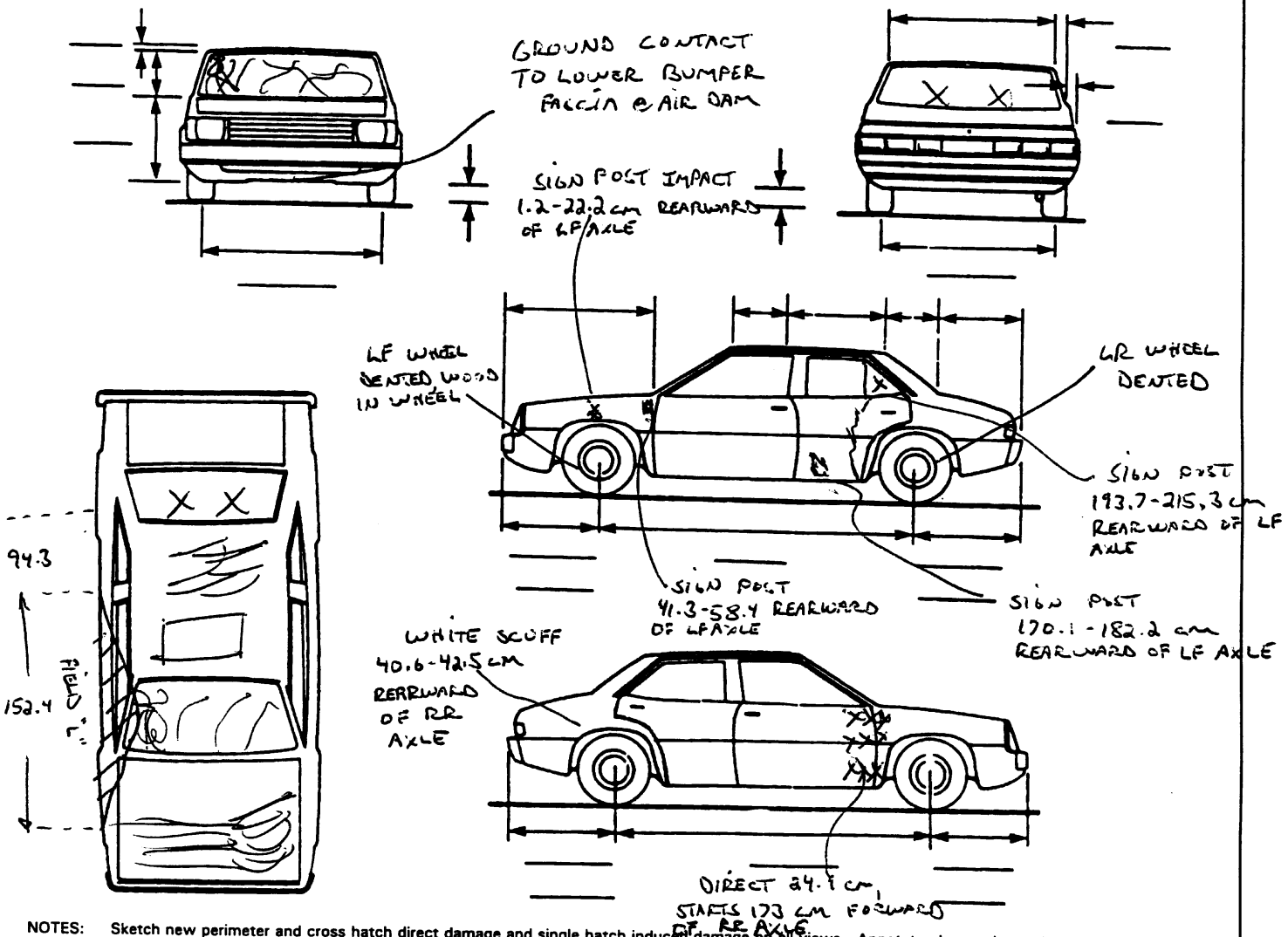
Within ± 5 degrees

DRIVE WHEELS

☒ FWD ☐ RWD ☐ 4WD

Approximate Cargo Weight 0 kg

MEASUREMENTS IN CENTIMETERS



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

CDC WORKSHEET

CODES FOR OBJECT CONTACTED

(01-30) — Vehicle Number

Noncollision
- (31) Overturn — rollover (excludes end-over-end)
- (32) Rollover—end-over-end
- (33) Fire or explosion
- (34) Jackknife
- (35) Other intraunit damage (specify): _____
- (36) Noncollision injury
- (38) Other noncollision (specify): _____
- (39) Noncollision — details unknown

Collision With Fixed Object
- (41) Tree (≤ 10 cm in diameter)
- (42) Tree (> 10 cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment
- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
- (50) Pole or post (≤ 10 cm in diameter)
- (51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
- (52) Pole or post (> 30 cm in diameter)
- (53) Pole or post (diameter unknown)
- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail) (specify): _____
- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): _____
- (69) Unknown fixed object

Collision with Nonfixed Object
- (70) Passenger car, light truck, van, or other vehicle not in-transport
- (71) Medium/heavy truck or bus not in-transport
- (72) Pedestrian
- (73) Cyclist or cycle
- (74) Other nonmotorist or conveyance
- (75) Vehicle occupant
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (79) Object fell from vehicle in-transport
- (88) Other nonfixed object (specify): _____
- (89) Unknown nonfixed object
- (98) Other event (specify): _____
- (99) Unknown event or object

DEFORMATION CLASSIFICATION BY EVENT NUMBER

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force (degrees)	Incremental Value of Shift	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
01	63	025	00	L	F	W	N	02
02	63	025	00	L	B	W	N	02
03	44	000	00	U	F	D	W	01
04	50	270	00	L	Y	E	W	03
05	31	000	00	I	Y	D	D	02
06	42	000	00	R	Y	E	N	03

COLLISION DEFORMATION CLASSIFICATION

HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. 06	5. 42	6. 00	7. R	8. Y	9. E	10. N	11. 02

Second Highest Delta "V"

12. 05	13. 31	14. 00	15. T	16. Y	17. D	18. 0	19. 02

CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

HIGHEST DELTA "V"

20. L	21. C_1	C_2	C_3	C_4	C_5	C_6	22. ±D
152	000	004	020	037	003	000	⊕ 089

Second Highest Delta "V"

23. L	24. C_1	C_2	C_3	C_4	C_5	C_6	25. ±D
———	———	———	———	———	———	———	+ − ———

26. Undeformed End Width (Coded when highest severity impact is an end plane impact.) 998
___ Code to the nearest centimeter
(250) 250 centimeters or more
(998) No highest severity end plane impact
(999) Unknown

27. Direct Damage Width (For highest severity impact) 024
___ Code to the nearest centimeter
(250) 250 centimeters or more
(999) Unknown

28. Original Wheelbase 240
___ Code to the nearest centimeter
(650) 650 centimeters or more
(999) Unknown
___ . __ inches X 2.54 = ___ centimeters

29. Original Average Track Width 141
___ Code to the nearest centimeter
(185) 185 centimeters or more
(999) Unknown
___ . __ inches X 2.54 = ___ centimeters

30. Are CDCs Documented but Not Coded on The Automated File? 1
(0) No
(1) Yes

31. Researcher's Assessment of Vehicle Disposition 1
(0) Not towed due to vehicle damage
(1) Towed due to vehicle damage
(9) Unknown

32. Is This A Multi-Stage Manufactured Vehicle And/Or A Certified Altered Vehicle? 0
(0) No post manufacturer modifications
(1) Yes - post manufacturer modifications (specify): _____
(Include photograph of CERTIFICATION PLACARD in case report)
(9) Unknown if vehicle is modified

FIRE OCCURRENCE

33. Fire Occurrence 0
(0) No fire

Yes, fire occurred
(1) Minor
(2) Major
(9) Unknown

34. Origin of Fire 0
(0) No fire
(1) Vehicle exterior (front, side, back, top)
(2) Exhaust system
(3) Fuel tank (and other fuel retention system parts)
(4) Engine compartment
(5) Cargo/trunk compartment
(6) Instrument panel
(7) Passenger compartment area
(8) Other location (specify): _____
(9) Unknown

FUEL SYSTEM

35. Location of Fuel Tank-1 Filler Cap 2

36. Location of Fuel Tank-2 Filler Cap 0
(0) No fuel tank
(1) On back plane
(2) Aft of center of the rear wheels (rear axle) on left side plane
(3) Aft of center of the rear wheels (rear axle) on right side plane
(4) Forward of center of the rear wheels (rear axle) on left side plane
(5) Forward of center of the rear wheels (rear axle) on right side plane
(6) Over the center of the rear wheels (rear axle) on left side plane
(7) Over the center of the rear wheels (rear axle) on right side plane
(8) Other (specify): _____
(9) Unknown

37. Type of Fuel Tank-1 1

38. Type of Fuel Tank-2 0
(0) No fuel tank (electrical vehicle)
(1) Metallic
(2) Non-metallic
(9) Unknown

39. Location of Fuel Tank-1 1

40. Location of Fuel Tank-2 0
(0) No fuel tank
(1) Aft of center of the rear wheels (rear axle) centered
(2) Aft of center of the rear wheels (rear axle) left side
(3) Aft of center of the rear wheels (rear axle) right side
(4) Forward of center of the rear wheels (rear axle) centered
(5) Forward of center of the rear wheels (rear axle) left side
(6) Forward of center of the rear wheels (rear axle) right side
(7) Over center of the rear wheels (rear axle)
(8) Other (specify): _____
(9) Unknown

41. Damage to Fuel Tank-1 1

42. Damage to Fuel Tank-2 0
(0) No fuel tank
(1) No damage to fuel tank
(2) Deformed, no seam failure
(3) Deformed, with a seam failure
(4) Punctured
(5) Lacerated (ripped)
(6) Abraded (scraped)
(7) Filler neck separation from the fuel tank
(8) Other damage (specify): _____
(9) Unknown

43. Leakage Location of Fuel System-1 1

44. Leakage Location of Fuel System-2 0
(0) No fuel tank
(1) No fuel leakage

Primary Area Of Leakage
(2) Tank
(3) Filler neck
(4) Cap
(5) Lines/pump/filter
(6) Vent/emission recovery
(8) Other (specify):_____
(9) Unknown

45. Fuel Type-1 01

46. Fuel Type-2 00

Single Fuel Type
(00) No fuel tank
(01) Gasoline
(02) Diesel
(03) CNG (Compressed Natural Gas)
(04) LPG (Liquid Petroleum Gas) also known as Propane
(05) LNG (Liquid Natural Gas)
(06) Methanol (M100 or M85)
(07) Ethanol (E100 or E85)
(08) Other (Hydrogen or others) (specify):
_____

Electric Powered or Electric/Solar Powered Vehicles
(10) Lead Acid Battery
(11) Nickel-Iron Battery
(12) Nickel-Cadmium Battery
(13) Sodium Metal Chloride Battery
(14) Sodium Sulfur Battery
(18) Other (Specify):_____

(98) Other Hybrid (specify):
_____

(99) Unknown fuel type

47. Is This Vehicle Equipped With More Than Two Fuel Tanks? 0
(0) No (one or two tanks only)

Yes - More Than Two Tanks
(1) Yes -- no damage to any tank or filler cap and no fuel system leakage
(2) Yes -- no damage to any tank or filler cap but there is fuel system leakage (specify leakage location):
_____
(3) Yes -- damage to an additional tank or filler cap and there is fuel system leakage (specify the following):
Type of tank _____
Tank location _____
Filler cap location _____
Tank damage _____
Location of leakage _____
Type of fuel _____
(9) Unknown if more than two tanks

COMMENTS

*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED ***

(GV10=0)

DO NOT COMPLETE THE INTERIOR VEHICLE FORM.

U.S. Department of Transportation
National Highway Traffic Safety Administration

INTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. ~~Primary Sampling Unit Number~~ ____
2. Case Number - Stratum 9 6 0 8
3. Vehicle Number 0 1

INTEGRITY

4. Passenger Compartment Integrity 0 7
(00) No integrity loss

Yes, Integrity Was Lost Through
(01) Windshield
(02) Door (side)
(03) Door/hatch (back door)
(04) Roof
(05) Roof glass
(06) Side window
(07) Rear window (backlight)
(08) Roof and roof glass
(09) Windshield and door (side)
(10) Windshield and roof
(11) Side and rear window (side window and backlight)
(12) Windshield and side window
(13) Door and side window
(98) Other combination of above (specify):
(99) Unknown

Door, Tailgate or Hatch Opening

5. LF 1 6. RF 3 7. LR 1 8. RR 1 9. TG/H 0

(0) No door/gate/hatch
(1) Door/gate/hatch remained closed and operational
(2) Door/gate/hatch came open during collision
(3) Door/gate/hatch jammed shut
(8) Other (specify):
(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then code Ø

10. LF 0 11. RF 0 12. LR 0 13. RR 0 14. TG/H 0

(0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision
(1) Door operational (no damage)
(2) Latch/striker failure due to damage
(3) Hinge failure due to damage
(4) Door structure failure due to damage
(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage
(6) Latch/striker and hinge failure due to damage
(8) Other failure (specify):
(9) Unknown

GLAZING

Type of Window/Windshield Glazing

15. WS 1 16. LF 2 17. RF 2 18. LR 2 19. RR 2
20. BL 2 21. Roof 3 22. Other 0

(0) No glazing
(1) AS-1 — Laminated
(2) AS-2 — Tempered
(3) AS-3 — Tempered-tinted (original)
(4) AS-2 — Tempered-with after market tint
(5) AS-3 — Tempered-tinted (with additional after market tint)
(6) AS-14 — Glass/Plastic
(7) Glazing removed prior to accident
(8) Other (specify):
(9) Unknown

Window Precrash Glazing Status

23. WS 1 24. LF 2 25. RF 2 26. LR 2 27. RR 2
28. BL 1 29. Roof 2 30. Other 0

(0) No glazing
(1) Fixed
(2) Closed
(3) Partially opened
(4) Fully opened
(7) Glazing removed prior to accident
(9) Unknown

Glazing Damage from Impact Forces

31. WS 2 32. LF 1 33. RF 1 34. LR 1 35. RR 1
36. BL 6 37. Roof 1 38. Other 0

(0) No glazing
(1) No glazing damage from impact forces
(2) Glazing in place and cracked from impact forces
(3) Glazing in place and holed from impact forces
(4) Glazing out-of-place (cracked or not) and not holed from impact forces
(5) Glazing out-of-place and holed from impact forces
(6) Glazing disintegrated from impact forces
(7) Glazing removed prior to accident
(9) Unknown if damaged

Glazing Damage from Occupant Contact

39. WS 1 40. LF 1 41. RF 1 42. LR 1 43. RR 1
44. BL 1 45. Roof 1 46. Other 0

(0) No glazing
(1) No occupant contact to glazing
(2) Glazing contacted by occupant but no glazing damage
(3) Glazing in place and cracked by occupant contact
(4) Glazing in place and holed by occupant contact
(5) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact
(6) Glazing out-of-place by occupant contact and holed by occupant contact
(7) Glazing removed prior to accident
(8) Glazing disintegrated by occupant contact
(9) Unknown if contacted by occupant

OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47. 13	48. 06	49. 2	50. 3 (5.5") (4.0")
2nd	51. 13	52. 11	53. 2	54. 3
3rd	55.	56.	57.	58.
4th	59.	60.	61.	62.
5th	63.	64.	65.	66.
6th	67.	68.	69.	70.
7th	71.	72.	73.	74.
8th	75.	76.	77.	78.
9th	79.	80.	81.	82.
10th	83.	84.	85.	86.

LOCATION OF INTRUSION

Front Seat
- (11) Left
- (12) Middle
- (13) Right

Second Seat
- (21) Left
- (22) Middle
- (23) Right

Third Seat
- (31) Left
- (32) Middle
- (33) Right

Fourth Seat
- (41) Left
- (42) Middle
- (43) Right

- (97) Catastrophic
- (98) Other enclosed area (specify) _____
- (99) Unknown

INTRUDING COMPONENT

Interior Components
- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A (A1/A2)-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Side panel - forward of the A1/A2-pillar
- (11) Door panel (side)
- (12) Side panel - rear of the B-pillar
- (13) Roof (or convertible top)
- (14) Roof side rail
- (15) Windshield
- (16) Windshield header
- (17) Window frame
- (18) Floor pan (includes sill)
- (19) Backlight header
- (20) Front seat back
- (21) Second seat back
- (22) Third seat back
- (23) Fourth seat back
- (24) Fifth seat back
- (25) Seat cushion
- (26) Back door/panel (e.g., tailgate)
- (27) Other interior component (specify): _____

Exterior Components
- (30) Hood
- (31) Outside surface of this vehicle (specify): _____
- (32) Other exterior object in the environment (specify): _____
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify): _____
- (99) Unknown

MAGNITUDE OF INTRUSION

- (1) ≥ 3 centimeters but < 8 centimeters
- (2) ≥ 8 centimeters but < 15 centimeters
- (3) ≥ 15 centimeters but < 30 centimeters
- (4) ≥ 30 centimeters but < 46 centimeters
- (5) ≥ 46 centimeters but < 61 centimeters
- (6) ≥ 61 centimeters
- (7) Catastrophic
- (9) Unknown

DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

STEERING COLUMN

87. Steering Column Type — 1
(1) Fixed column
(2) Tilt column
(3) Telescoping column
(4) Tilt and telescoping column
(8) Other column type (specify): _____
(9) Unknown

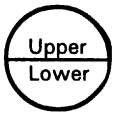
88. Tilt Steering Column Adjustment — 0
(0) No tilt steering column
(1) Full up
(2) Between full up and center
(3) Center
(4) Between center and full down
(5) Full down
(9) Unknown

89. Telescoping Steering Column Adjustment — 0
(0) No telescoping steering column
(1) Full back
(2) Between full back and midpoint
(3) Midpoint
(4) Between midpoint and full forward
(5) Full forward
(9) Unknown

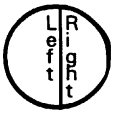
90. Steering Rim/Spoke Deformation — 0 0
____Code actual measured deformation to the nearest centimeter
(00) No steering rim deformation
(01-14) Actual measured value in centimeters
(15) 15 centimeters or more
(98) Observed deformation cannot be measured
(99) Unknown

91. Location of Steering Rim/Spoke Deformation — 0 0
(00) No steering rim deformation

Quarter Sections
(01) Section A
(02) Section B
(03) Section C
(04) Section D



Half Sections
(05) Upper half of rim/spoke
(06) Lower half of rim/spoke
(07) Left half of rim/spoke
(08) Right half of rim/spoke



(09) Complete steering wheel collapse
(10) Undetermined location
(99) Unknown

INSTRUMENT PANEL

92. Odometer Reading — 0 1 9 ,000
____ kilometers
Code to the nearest 1,000 kilometers
(000) No odometer
(001) Less than 1,500 kilometers
(500) 499,500 kilometers or more
(999) Unknown
11,552.7 miles X 1.6093 = 18,600 kilometers

Source: _____

93. Instrument Panel Damage from Occupant Contact? — 0
(0) No
(1) Yes
(9) Unknown

94. Type of Knee Bolster Covering — 2
(0) No knee bolster
(1) Padded
(2) Rigid plastic
(8) Other (specify): _____
(9) Unknown

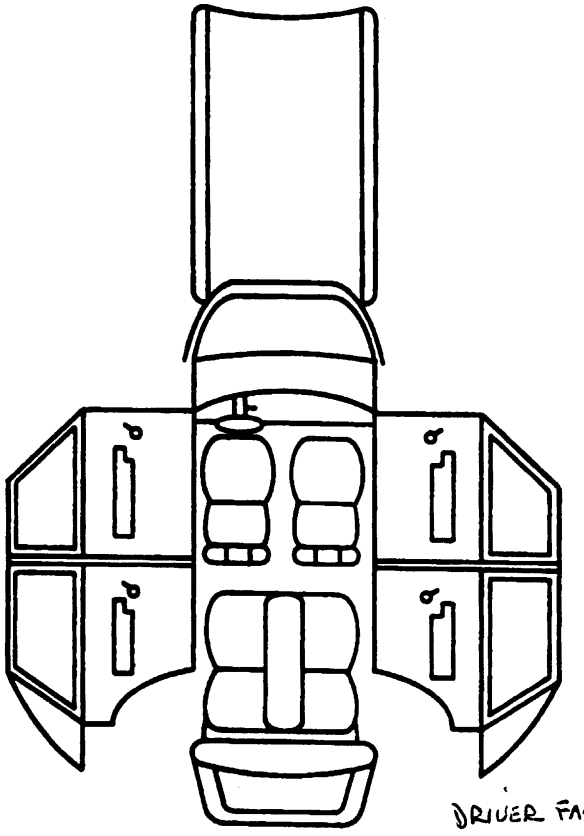
95. Knee Bolsters Deformed from Occupant Contact? — 1
(0) No knee bolster
(1) No deformation
(2) Yes - deformation
(9) Unknown

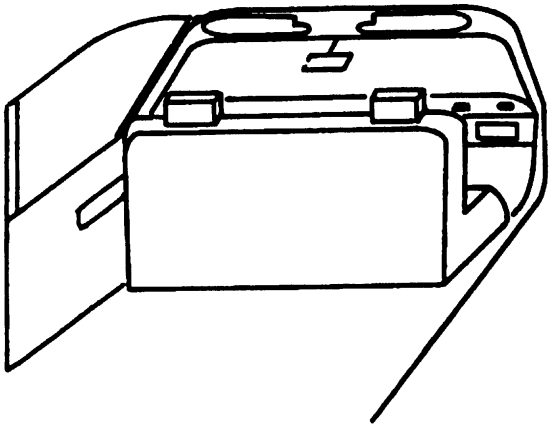
96. Did Glove Compartment Door Open During Collision(s)? — 2
(0) No glove compartment door
(1) No - door did not open
(2) Yes - door opened
(9) Unknown

97. Adaptive (Assistive) Driving Equipment — 0
(0) No adaptive driving equipment
(1) Adaptive driving equipment installed (Check all that apply.)
[ ] Hand controls for braking/acceleration
[ ] Steering control devices (attached to OEM steering wheel
[ ] Steering knob attached to steering wheel
[ ] Low effort power steering (unit or device)
[ ] Replacement steering wheel (i.e., reduced diameter)
[ ] Joy-stick steering controls
[ ] Wheelchair tie-downs
[ ] Modification to seat belts (specify): _____
[ ] Additional or relocated switches (specify): _____
[ ] Raised roof
[ ] Wall-mounted head rest (used behind wheelchair)
[ ] Other adaptive device (specify): _____
(9) Unknown

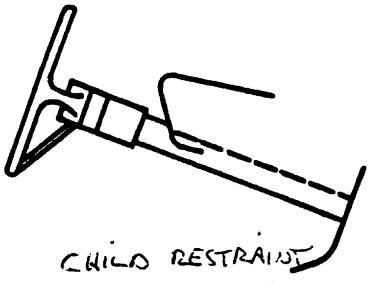
VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment

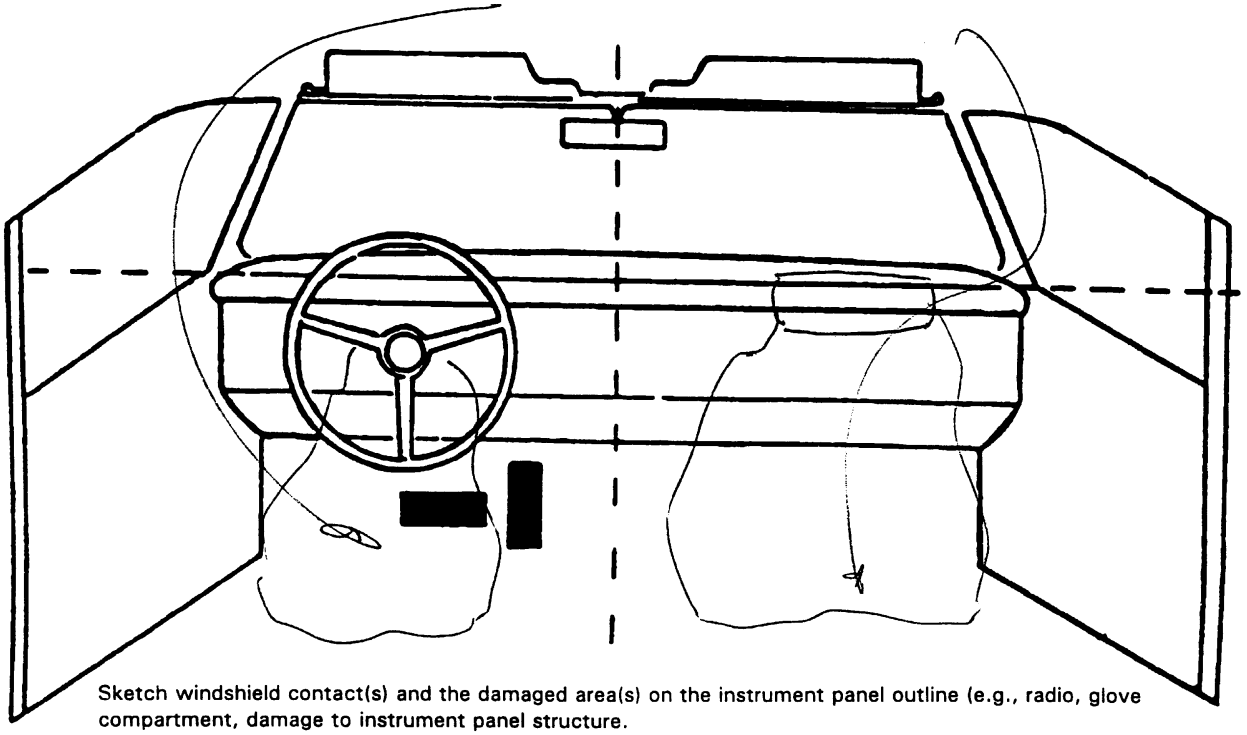




DRIVER FACIAL CONTACT TO BAG LIPSTICK TRANSFERS



CHILD RESTRAINT TRANSFERS ON PASSENGER SIDE BAG



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure.
Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.
Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	170	1	FACE	LIPSTICK TRANSFERS	1
B	180	2	CHILD RESTRAINT	FABRIC TRANSFERS	1
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					
N					

CODES FOR INTERIOR COMPONENTS

FRONT
(001) Windshield
(002) Mirror
(003) Sunvisor
(004) Steering wheel rim
(005) Steering wheel hub/spoke
(006) Steering wheel (combination of codes 004 and 005)
(007) Steering column,transmission selector lever, other attachment
(008) Cellular telephone or CB radio
(009) Add on equipment(e.g., tapedeck, air conditioner)
(010) Left instrument panel and below
(011) Center instrument panel and below
(012) Right instrument panel and below
(013) Glove compartment door
(014) Knee bolster
(015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
(016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
(017) Windshield reinforced by exterior object, (specify): _____
(019) Other front object (specify): _____

LEFT SIDE
(051) Left side interior surface, excluding hardware or armrests
(052) Left side hardware or armrest
(053) Left A (A1/A2)-pillar
(054) Left B-pillar
(055) Other left pillar (specify): _____
(056) Left side window glass
(057) Left side window frame
(058) Left side window sill
(059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
(060) Other left side object (specify): _____

RIGHT SIDE
(101) Right side interior surface, excluding hardware or armrests
(102) Right side hardware or armrest
(103) Right A (A1/A2)-pillar
(104) Right B-pillar
(105) Other right pillar (specify): _____
(106) Right side window glass
(107) Right side window frame
(108) Right side window sill
(109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
(110) Other right side object (specify): _____

INTERIOR
(151) Seat, back support
(152) Belt restraint webbing/buckle
(153) Belt restraint B-pillar or door frame attachment point
(154) Other restraint system component (specify): _____
(155) Head restraint system
(160) Other occupants (specify): _____
(161) Interior loose objects
(162) Child safety seat (specify): _____
(163) Other interior object (specify): _____

AIR BAG
(170) Air bag-driver side
(175) Air bag compartment cover-driver side
(180) Air bag-passenger side
(185) Air bag compartment cover-passenger side
(190) Other air bag (specify) _____
(195) Other air bag compartment cover (specify) _____

ROOF
(201) Front header
(202) Rear header
(203) Roof left side rail
(204) Roof right side rail
(205) Roof or convertible top

FLOOR
(251) Floor (including toe pan)
(252) Floor or console mounted transmission lever, including console
(253) Parking brake handle
(254) Foot controls including parking brake

REAR
(301) Backlight (rear window)
(302) Backlight storage rack, door, etc.
(303) Other rear object (specify): _____

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT
(401) Hand controls for braking/acceleration
(402) Steering control devices (attached to OEM steering wheel)
(403) Steering knob attached to steering wheel
(405) Replacement steering wheel (i.e., reduced diameter)
(406) Joy stick steering controls
(407) Wheelchair tie-downs
(408) Modification to seat belts, (specify): _____
(409) Additional or relocated switches, (specify): _____
(410) Raised roof
(411) Wall mounted head rest (used behind wheel chair)
(412) Other adaptive device (specify): _____

CONFIDENCE LEVEL OF CONTACT POINT
(1) Certain
(2) Probable
(3) Possible
(9) Unknown

MANUAL RESTRAINTS

NOTES: Encode the applicable data **for each seat position** in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a child safety seat is present, encode the data on the back of this page 11.

If the vehicle has automatic restraints available, encode the appropriate data on page 6.

		Left	Center	Right
FIRST	A-Availability	4	0	4
	B-Evidence of usage	04	00	04
	C-Used in this crash?	04	00	04
	D-Proper Use	1	00	1
	E-Failure Modes	0	0	0
	F-Anchorage Adjustment	4	0	4
SECOND	A-Availability			
	B-Evidence of usage			
	C-Used in this crash?			
	D-Proper Use			
	E-Failure Modes			
	F-Anchorage Adjustment			
OTHER	A-Availability			
	B-Evidence of usage			
	C-Used in this crash?			
	D-Proper Use			
	E-Failure Modes			
	F-Anchorage Adjustment			

A-Manual (Active) Belt System Availability

(0) None available
(1) Belt removed/destroyed
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt available - type unknown

Integral Belt Partially Destroyed

(6) Shoulder belt (lap belt destroyed/removed)
(7) Lap belt (shoulder belt destroyed/removed)
(8) Other belt (specify): _____
(9) Unknown

B/C-Manual (Active) Belt System Use

(00) None used, not available, or belt removed/destroyed
(01) Inoperable (specify): _____
(02) Shoulder belt
(03) Lap belt
(04) Lap and shoulder belt
(05) Belt used - type unknown
(08) Other belt used (specify): _____
(12) Shoulder belt used with child safety seat
(13) Lap belt used with child safety seat
(14) Lap and shoulder belt used with child safety seat
(15) Belt used with child safety seat - type unknown
(18) Other belt used with child safety seat (specify): _____
(99) Unknown if belt used

D-Proper Use of Manual (Active) Belts

(0) None used or not available
(1) Belt used properly
(2) Belt used properly with child safety seat

Belt Used Improperly

(3) Shoulder belt worn under arm
(4) Shoulder belt worn behind back or seat
(5) Belt worn around more than one person
(6) Lap belt worn on abdomen
(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): _____
(8) Other improper use of manual belt system (specify): _____
(9) Unknown

E-Manual (Active) Belt Failure Modes During Accident

(0) No manual belt used or not available
(1) No manual belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify): _____
(6) Broken retractor
(7) Combination of above (specify): _____
(8) Other manual belt failure (specify): _____
(9) Unknown

F-Shoulder Belt Upper Anchorage Adjustment

(0) No shoulder belt
(1) No upper anchorage adjustment for shoulder belt

Adjustable shoulder Belt Upper Anchorage

(2) In full up position
(3) In mid position
(4) In full down position
(5) Position unknown
(9) Unknown if position has adjustable upper anchorage adjustment

AUTOMATIC RESTRAINTS

NOTES: Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

AIR BAGS

		Frontal Air Bags--**Left Front**	Frontal Air Bags-**Right Front**	OtherAir Bag
FIRST	Availability/Function	1	1	0
	Deployment	1	1	0
	Failure	1	1	0

Air Bag System Availability/Function
(0) Not equipped/not available
(1) Air bag

Non-functional
(2) Air bag disconnected (specify): _____
(3) Air bag not reinstalled
(9) Unknown

Air Bag System Deployment **(This Occupant Position)**
(0) Not equipped/not available
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, accident sequence undetermined
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

Are There Indications of Air Bag System Failure? (This Occupant Position)
(0) Not equipped/not available
(1) No
(2) Yes (specify): _____
(9) Unknown

AUTOMATIC BELTS

		Left	Right
FIRST	A-Availability/Function	0	0
	B-Use	0	0
	C-Type	0	0
	D-Proper Use	0	0
	E-Failure Modes	0	0

A-Automatic (Passive) Belt System Availability/Function
(0) Not equipped/not available
(1) 2 point automatic belts
(2) 3 point automatic belts
(3) Automatic belts - type unknown

Non-functional
(4) Automatic belts destroyed or rendered inoperative
(9) Unknown

B-Automatic (Passive) Belt System Use
(0) Not equipped/not available/destroyed or rendered inoperative
(1) Automatic belt in use
(2) Automatic belt not in use (manually disconnected, motorized track inoperative)
(3) Automatic belt use unknown
(9) Unknown

C-Automatic (Passive) Belt System Type
(0) Not equipped/not available
(1) Non-motorized system
(2) Motorized system
(9) Unknown

D-**Proper Use of Automatic (Passive) Belt System**
(0) Not equipped/not available/not used
(1) Automatic belt used properly
(2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly
(3) Automatic shoulder belt worn under arm
(4) Automatic shoulder belt worn behind back
(5) Automatic belt worn around more than one person
(6) Lap portion of automatic belt worn on abdomen
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): _____
(8) Other improper use of automatic belt system (specify): _____
(9) Unknown

E-Automatic (Passive) Belt Failure Modes During Accident
(0) Not equipped/not available/not in use
(1) No automatic belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify): _____
(6) Broken retractor
(7) Combination of above (specify):
(8) Other automatic belt failure (specify): _____
(9) Unknown

FIRST SEAT FRONTAL AIR BAGS

NOTES: Encode the applicable data ***for the driver and first seat passenger*** in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

	Driver	Passenger
A-Type of air bag?	1	1
B-Flaps open at tear points?	2	2
C-Flaps damaged?	1	1
D-Air bag damaged?	01	01
E-Source of air bag damage	01	01
F-Air bag tethered?	2 (2)	2 (2)
G-Air bag have vent ports?	2 (2)	2 (2)
H-Other occupant contact air bag?	1	1
I-Occupant wearing eyewear?	2 SUNGLASSES	1

A-Type of Air Bag
- (0) Not equipped/not available
- (1) Original manufacturer installed system
- (2) Retrofitted air bag
- (3) Replacement air bag
- (8) Unknown type of air bag
- (9) Unknown

B-Did Air Bag Module Cover Flap(s) Open At Designated Tear Points?
- (0) Not equipped/not available
- (1) No
- (2) Yes
- (3) Deployed, unknown if flap(s) opened at designated tear points
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

C-Were Air Bag Module Cover Flap(s) Damaged?
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): _____
- (3) Deployed, unknown if air bag module cover flap(s) damaged
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

D-Was There Damage To The Air Bag?
- (00) Not equipped/not available
- (01) Not damaged

Yes - Air Bag Damage
- (02) Ruptured
- (03) Cut
- (04) Torn
- (05) Holed
- (06) Burned
- (07) Abraded
- (88) Other damage (specify): _____
- (95) Damaged, details unknown
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

E-Source of Air Bag Damage
- (00) Not equipped/not available
- (01) Not damaged
- (02) Object worn by occupant, (specify): _____
- (03) Object carried by occupant, (specify): _____
- (04) Adaptive/assistive controls, (specify): _____
- (05) Fire in vehicle
- (06) Thermal burns
- (07) Rescue or emergency efforts
- (88) Other damage source (specify): _____
- (95) Damaged, unknown source
- (96) Deployed, unknown if damaged
- (97) Not deployed
- (98) Unknown if deployed
- (99) Unknown

F-Was The Air Bag Tethered?
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of tether straps): _____
- (3) Deployed, unknown if tethered
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

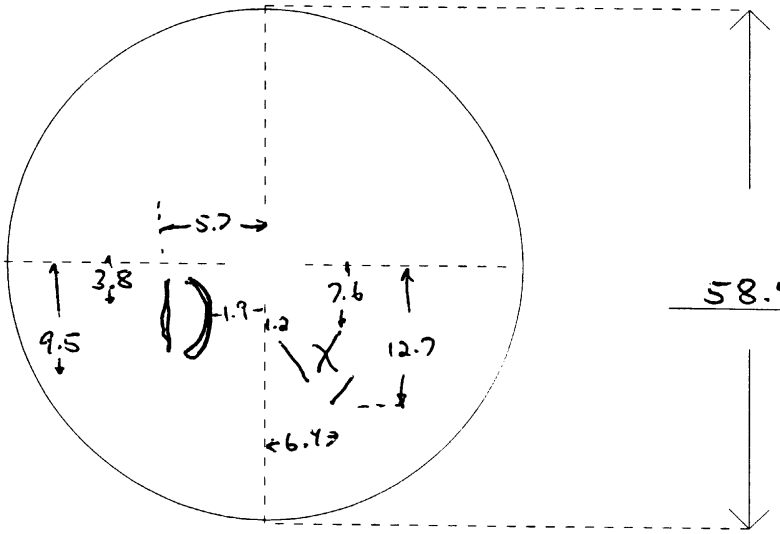
G-Did The Air Bag Have Vent Ports?
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify number of vent ports): _____
- (3) Deployed, unknown if vent ports present
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

H-Was the Air Bag in this Occupant's Position Contacted by Another Occupant?
- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): _____
- (3) Deployed, unknown if other occupant contact to air bag
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

I-Was This Occupant Wearing Eye-wear?
- (0) Not equipped/not available
- (1) No
- (2) Eyeglasses/sunglasses
- (3) Contact lenses
- (4) Deployed, unknown if eyewear worn
- (7) Not deployed
- (8) Unknown if deployed
- (9) Unknown

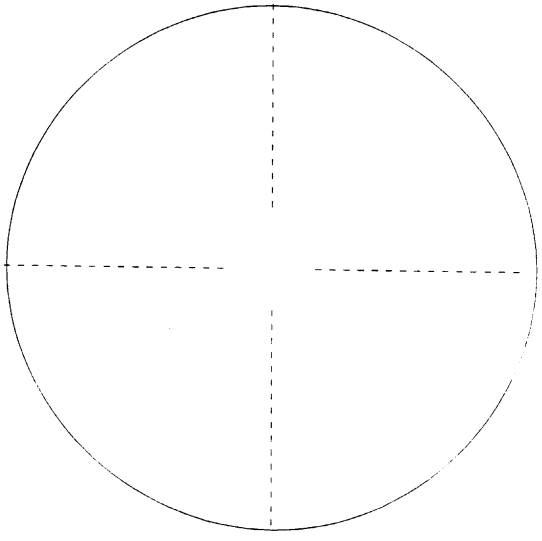
DRIVER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Front)



LIPSTICK TRANSFERS, WHEEL ROTATED 90 CW IN PICS.

2. SKETCH DAMAGE AND CONTACT EVIDENCE ON DRIVER AIR BAG (Back)

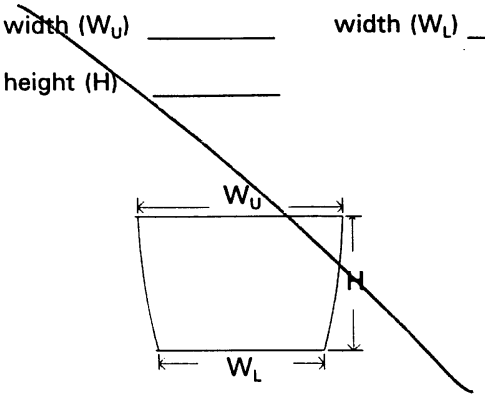


DRIVER AIR BAG SKETCHES (Cont'd)

3. DRIVER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

width (W_U) _____ width (W_L) _____

height (H) _____

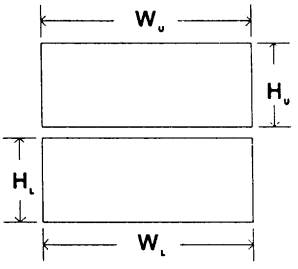


4. DRIVER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap b. Lower Flap

width (W_U) 14.9 width (W_L) 14.9

height (H_U) 7.6 height (H_L) 5.2

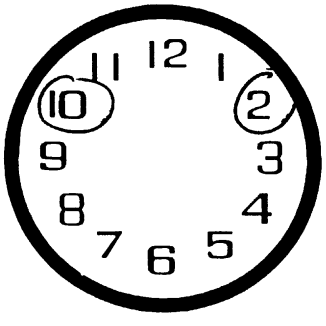


5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

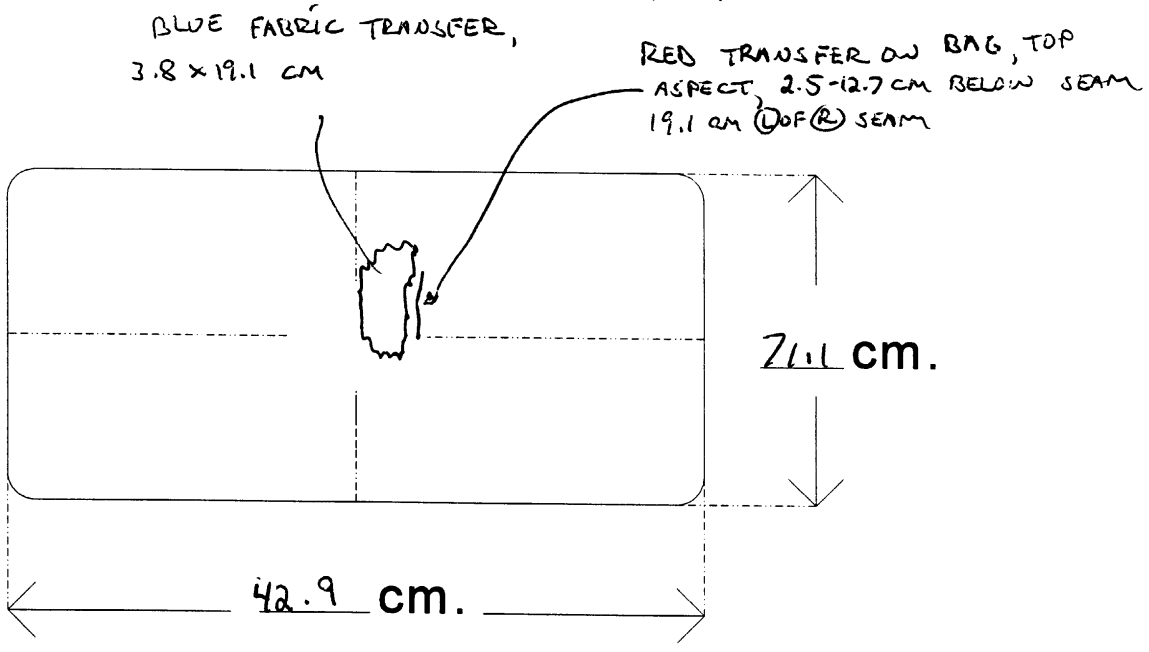
7. SKETCH LOCATION OF CIRCULAR AIR BAG VENT PORTS

2 - 2.5cm vent ports @ 10+2 o'clock

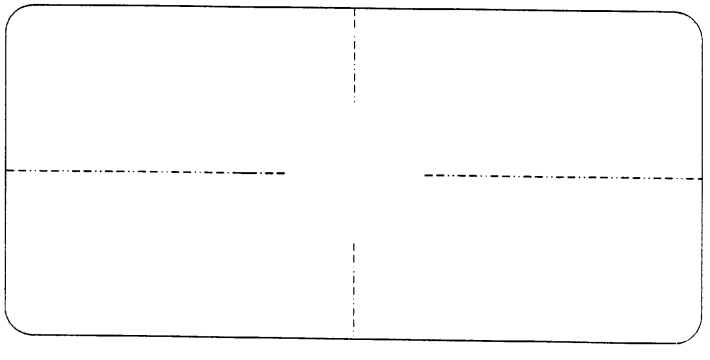


PASSENGER AIR BAG DAMAGE AND CONTACT SKETCHES

1. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Front)



2. SKETCH DAMAGE AND CONTACT EVIDENCE ON PASSENGER AIR BAG (Back)

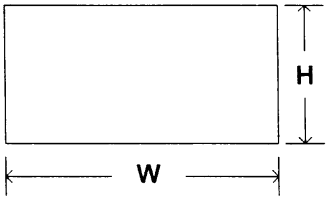


PASSENGER AIR BAG SKETCHES (Cont'd)

3. PASSENGER AIR BAG MODULE COVER FLAP SIZE (SINGLE)

width (W) 35.2

height (H) 18.4



4. PASSENGER AIR BAG MODULE COVER FLAP SIZE (DOUBLE)

a. Upper Flap

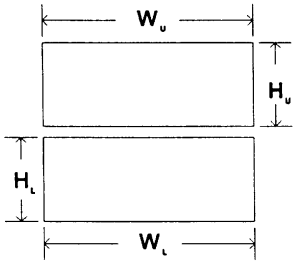
width (W_U) _____

height (H_U) _____

b. Lower Flap

width (W_L) _____

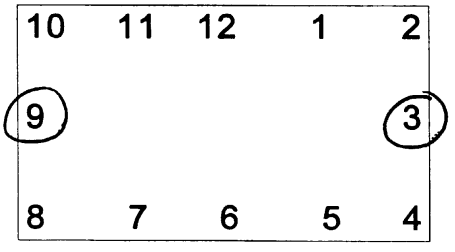
height (H_L) _____



5. SKETCH OF OTHER TYPE OF AIR BAG MODULE FLAP AND SIZE

6. SKETCH OF OTHER TYPE OF AIR BAG VENT PORTS

7. SKETCH LOCATION OF RECTANGULAR AIR BAG VENT PORTS



2 - 5.1cm PORTS @ 3 & 9 O'CLOCK

"OTHER" AIR BAG SKETCHES (Cont'd)

3. SKETCH AIR BAG MODULE FLAP AND SIZE OR OPENING FOR AIRBAG

4. SKETCH AIR BAG VENT PORTS

HEAD RESTRAINTS/SEAT EVALUATION

NOTES: **Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found on the next page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.**

		Left	Center	Right
FIRST	A-Head Restraint Type/Damage	3		3
	B-Seat Type	01		01
	C-Seat Orientation	1		1
	D-Seat Track Position	3		3
	E-Seat Back Incline Pre/Post Impact	13		13
	F-Seat Performance	1		1
SECOND	A-Head Restraint Type/Damage			
	B-Seat Type			
	C-Seat Orientation			
	D-Seat Track Position			
	E-Seat Back Incline Pre/Post Impact			
	F-Seat Performance			
THIRD	A-Head Restraint Type/Damage			
	B-Seat Type			
	C-Seat Orientation			
	D-Seat Track Position			
	E-Seat Back Incline Pre/Post Impact			
	F-Seat Performance			
OTHER	A-Head Restraint Type/Damage			
	B-Seat Type			
	C-Seat Orientation			
	D-Seat Track Position			
	E-Seat Back Incline Pre/Post Impact			
	F-Seat Performance			

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE

(I.E., UNUSUAL OCCUPANT CONTACT PATTERN)

HEAD RESTRAINTS/SEAT EVALUATION

A-Head Restraint Type/Damage by Occupant at This Occupant Position
(0) No head restraints
(1) Integral — no damage
(2) Integral — damaged during accident
(3) Adjustable — no damage
(4) Adjustable — damaged during accident
(5) Add-on — no damage
(6) Add-on — damaged during accident
(8) Other Specify):_____
(9) Unknown

B-Seat Type (this Occupant Position)
(00) Occupant not seated or no seat
(01) Bucket
(02) Bucket with folding back
(03) Bench
(04) Bench with separate back cushions
(05) Bench with folding back(s)
(06) Split bench with separate back cushions
(07) Split bench with folding back(s)
(08) Pedestal (i.e., column supported)
(09) Box mounted seat (i.e., van type)
(10) Other seat type (specify):

(99) Unknown

C-Seat Orientation (this Occupant Position)
(0) Occupant not seated or no seat
(1) Forward facing seat
(2) Rear facing seat
(3) Side facing seat (inward)
(4) Side facing seat (outward)
(8) Other (specify):

(9) Unknown

D-Seat Track Adjusted Position Prior To Impact
(0) Occupant not seated or no seat
(1) Non-adjustable seat track

Adjustable Seat Track
(2) Seat at forward most track position
(3) Seat between forward most and middle track positions
(4) Seat at middle track position
(5) Seat between middle and rear most track positions
(6) Seat at rear most track position
(9) Unknown

E-Seat Back Incline Prior and Post Impact
(00) Occupant not seated or no seat
(01) Not adjustable

Upright prior to impact
(11) Moved to completely rearward position
(12) Moved to rearward midrange position
(13) Moved to slightly rearward position
(14) Retained pre-impact position
(15) Moved to slightly forward position
(16) Moved to forward midrange position
(17) Moved to completely forward position

Slightly reclined prior to impact
(21) Moved to completely rearward position
(22) Moved to rearward midrange position
(23) Retained pre-impact postion
(24) Moved to upright position
(25) Moved to slightly forward position
(26) Moved to forward midrange position
(27) Moved to completely forward position

Completely reclined prior to impact
(31) Retained pre-impact position
(32) Moved to rearward midrange position
(33) Moved to slightly rearward position
(34) Moved to upright position
(35) Moved to slightly forward position
(36) Moved to forward midrange position
(37) Moved to completely forward position

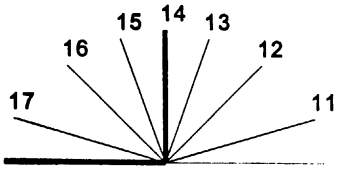
(99) Unknown

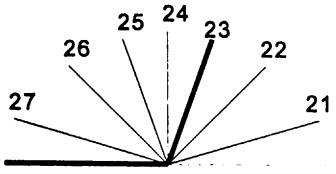
F-Seat Performance (this Occupant Position)
(0) Occupant not seated or no seat
(1) No seat performance failure(s)
(2) Seat adjusters failed
(3) Seat back folding locks or "seat back" failed (specify):

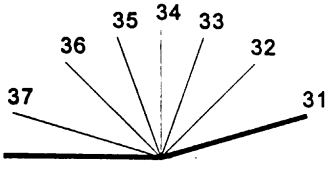
(4) Seat tracks/anchors failed
(5) Deformed by impact of occupant
(6) Deformed by passenger compartment intrusion (specify):
(7) Combination of above (specify):

(8) Other (specify):

(9) Unknown







Coding diagrams for *Seat Back Incline Position Prior and Post Impact*

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E., UNUSUAL OCCUPANT CONTACT PATTERN)

CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number	02					
1. Type of Child Safety Seat	1					
2. Child Safety Seat Orientation	01					
3. Child Safety Seat Harness Usage	12					
4. Child Safety Seat Shield Usage	03					
5. Child Safety Seat Tether Usage	03					
6. Child Safety Seat Make/Model	[redacted]	Specify Below for Each Child Safety Seat				

1. Type of Child Safety Seat
   - (0) No child safety seat
   - (1) Infant seat
   - (2) Toddler seat
   - (3) Convertible seat
   - (4) Booster seat
   - (7) Other type child safety seat (specify): _____
   - (8) Unknown child safety seat type
   - (9) Unknown if child safety seat used

2. Child Safety Seat Orientation
   - (00) No child safety seat

   Designed for Rear Facing for This Age/Weight
   - (01) Rear facing
   - (02) Forward facing
   - (08) Other orientation (specify): _____
   - (09) Unknown orientation

   Designed for Forward Facing for This Age/Weight
   - (11) Rear facing
   - (12) Forward facing
   - (18) Other orientation (specify): _____
   - (19) Unknown orientation

   Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight
   - (21) Rear facing
   - (22) Forward facing
   - (28) Other orientation (specify): _____
   - (29) Unknown orientation

   (99) Unknown if child safety seat used

3. Child Safety Seat Harness Usage

4. Child Safety Seat Shield Usage

5. Child Safety Seat Tether Usage
   Note: Options Below Are Used for Variables 3-5.
   - (00) No child safety seat

   Not Designed with Harness/Shield/Tether
   - (01) After market harness/shield/tether added, not used
   - (02) After market harness/shield/tether used
   - (03) Child safety seat used, but no after market harness/shield/tether added
   - (09) Unknown if harness/shield/tether added or used

   Designed With Harness/Shield/Tether
   - (11) Harness/shield/tether not used
   - (12) Harness/shield/tether used
   - (19) Unknown if harness/shield/tether used

   Unknown If Designed With Harness/Shield/Tether
   - (21) Harness/shield/tether not used
   - (22) Harness/shield/tether used
   - (29) Unknown if harness/shield/tether used

   (99) Unknown if child safety seat used

6. Child Safety Seat Make/Model
   (Specify make/model and occupant number)

   _____

   _____

   _____

   _____

EJECTION/ENTRAPMENT DATA

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

EJECTION No [✓] Yes [ ]

Describe indications of ejection and body parts involved in partial ejection(s):

Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

Ejection
(1) Complete ejection
(2) Partial ejection
(3) Ejection, Unknown degree
(9) Unknown

Ejection Area
(1) Windshield
(2) Left front
(3) Right front
(4) Left rear
(5) Right rear
(6) Rear
(7) Roof
(8) Other area (e.g., back of pickup, etc.) (specify): _____
(9) Unknown

Ejection Medium
(1) Door/hatch/tailgate
(2) Nonfixed roof structure
(3) Fixed glazing
(4) Nonfixed glazing (specify): _____
(5) Integral structure
(8) Other medium (specify): _____
(9) Unknown

Medium Status (Immediately Prior to Impact)
(1) Open
(2) Closed
(3) Integral structure
(9) Unknown

ENTRAPMENT No [✓] Yes [ ]

Describe entrapment mechanism: _____

Component(s): _____

(Note on vehicle interior sketch)

U.S. Department of Transportation
National Highway Traffic Safety Administration

OCCUPANT ASSESSMENT FORM

Form Approved
O.M.B. No. 2127-0021

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. ~~Primary Sampling Unit Number~~ ____
2. Case Number - Stratum 9608
3. Vehicle Number 01
4. Occupant Number 01

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 19
Code actual age at time of accident.
(00) Less than one year old (specify by month): _____
(97) 97 years and older
(99) Unknown

6. Occupant's Sex 2
(1) Male
(2) Female-not reported pregnant
(3) Female-pregnant-1st trimester(1st-3rd month)
(4) Female-pregnant-2nd trimester(4th-6th month)
(5) Female-pregnant-3rd trimester(7th-9th month)
(6) Female-pregnant-term unknown
(9) Unknown

7. Occupant's Height 155
Code actual height to the nearest centimeter.
(999) Unknown

61 inches X 2.54 = 154.9 centimeters

8. Occupant's Weight 066
Code actual weight to the nearest kilogram.
(999) Unknown

145 pounds X .4536 = 65.8 kilograms

9. Occupant's Role 1
(1) Driver
(2) Passenger
(9) Unknown

OCCUPANT'S SEATING

10. Occupant's Seat Position 11
Front Seat
(11) Left side
(12) Middle
(13) Right side
(14) Other (specify): _____
(15) On or in the lap of another occupant

Second Seat
(21) Left side
(22) Middle
(23) Right side
(24) Other (specify): _____
(25) On or in the lap of another occupant

Third Seat
(31) Left side
(32) Middle
(33) Right side
(34) Other (specify): _____
(35) On or in the lap of another occupant

Fourth Seat
(41) Left side
(42) Middle
(43) Right side
(44) Other (specify): _____
(45) On or in the lap of another occupant

(97) In or on unenclosed area
(98) Other seat (specify): _____
(99) Unknown

11. Occupant's Posture 0
(0) Normal posture

Abnormal posture
(1) Kneeling or standing on seat
(2) Lying on or across seat
(3) Kneeling, standing or sitting in front of seat
(4) Sitting sideways or turned to talk with another occupant or to look out a rear window
(5) Sitting on a console
(6) Lying back in a reclined seat position
(7) Bracing with feet or hands on a surface in front of seat
(8) Other abnormal posture (specify): _____
(9) Unknown

HS Form 433A (1/96)

EJECTION/ENTRAPMENT

12. Ejection — 0
    (0) No ejection
    (1) Complete ejection
    (2) Partial ejection
    (3) Ejection, unknown degree
    (9) Unknown

13. Ejection Area — 0
    (0) No ejection
    (1) Windshield
    (2) Left front
    (3) Right front
    (4) Left rear
    (5) Right rear
    (6) Rear
    (7) Roof
    (8) Other area (e.g., back of pickup, etc.) (specify):_____
    (9) Unknown

14. Ejection Medium — 0
    (0) No ejection
    (1) Door/hatch/tailgate
    (2) Nonfixed roof structure
    (3) Fixed glazing
    (4) Nonfixed glazing (specify):
    _____
    (5) Integral structure
    (8) Other medium (specify):
    _____
    (9) Unknown

15. Medium Status (Immediately Prior To Impact) — 0
    (0) No ejection
    (1) Open
    (2) Closed
    (3) Integral structure
    (9) Unknown

16. Entrapment — 0
    (0) Not entrapped/exit not inhibited
    (1) Entrapped/pinned - mechanically restrained
    (2) Could not exit vehicle due to jammed doors, fire, etc.
    (specify):_____
    _____
    (9) Unknown

17. Occupant Mobility — 4
    (0) Occupant fatal before removed from vehicle
    (1) Removed from vehicle while unconscious or not oriented to time or place
    (2) Removed from vehicle due to perceived serious injuries
    (3) Exited vehicle with some assistance
    (4) Exited vehicle under own power
    (5) Occupant fully ejected
    (8) Removed from vehicle for other reasons (specify): _____
    (9) Unknown

BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability — 4
(0) None available
(1) Belt removed/destroyed
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt available—type unknown

Integral Belt Partially Destroyed
(6) Shoulder belt (lap belt destroyed/removed)
(7) Lap belt (shoulder belt destroyed/removed)
(8) Other belt (specify):

(9) Unknown

19. Manual (Active) Belt System Use — 04
(00) None used, not available, or belt removed/destroyed
(01) Inoperative (specify):

(02) Shoulder belt
(03) Lap belt
(04) Lap and shoulder belt
(05) Belt used—type unknown
(08) Other belt used (specify):

(12) Shoulder belt used with child safety seat
(13) Lap belt used with child safety seat
(14) Lap and shoulder belt used with child safety seat
(15) Belt used with child safety seat—type unknown
(18) Other belt used with child safety seat (specify):
(99) Unknown if belt used

20. Proper Use of Manual (Active) Belts — 1
(0) None used or not available
(1) Belt used properly
(2) Belt used properly with child safety seat

Belt Used Improperly
(3) Shoulder belt worn under arm
(4) Shoulder belt worn behind back or seat
(5) Belt worn around more than one person
(6) Lap belt worn on abdomen
(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of manual belt system (specify):

(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident — 1
(0) No manual belt used or not available
(1) No manual belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):

(6) Broken retractor
(7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

22. Manual Shoulder Belt Upper Anchorage Adjustment — 4
(0) No manual shoulder belt
(1) No upper anchorage adjustment for manual shoulder belt

Adjustable shoulder Belt Upper Anchorage
(2) In full up position
(3) In mid position
(4) In full down position
(5) Position unknown
(9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/ Function — 0
(0) Not equipped/not available
(1) 2 point automatic belts
(2) 3 point automatic belts
(3) Automatic belts - type unknown

Non-functional
(4) Automatic belts destroyed or rendered inoperative
(9) Unknown

24. Automatic (Passive) Belt System Use — 0
(0) Not equipped/not available/destroyed or rendered inoperative
(1) Automatic belt in use
(2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):
(3) Automatic belt use unknown
(9) Unknown

25. Automatic (Passive) Belt System Type — 0
(0) Not equipped/not available
(1) Non-motorized system
(2) Motorized system
(9) Unknown

26. Proper Use of Automatic (Passive) Belt System — 0
(0) Not equipped/not available/not used
(1) Automatic belt used properly
(2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly
(3) Automatic shoulder belt worn under arm
(4) Automatic shoulder belt worn behind back
(5) Automatic belt worn around more than one person
(6) Lap portion of automatic belt worn on abdomen
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of automatic belt system (specify):
(9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident — 0
(0) Not equipped/not available/not in use
(1) No automatic belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):

(6) Broken retractor
(7) Combination of above (specify):
(8) Other automatic belt failure (specify):

(9) Unknown

POLICE REPORTED RESTRAINT USE

28. Police Reported Belt Use 4
(0) None used
(1) Police did not indicate belt use
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt used, type not specified
(6) Child safety seat
(7) Automatic belt
(8) Other type belt, (specify):

_____
(9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 2
(0) No air bag available
(1) Police did not indicate air bag availability/function
(2) Deployed
(3) Not deployed
(4) Unknown if deployed
(9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

[✓] Vehicle inspection
[ ] Official injury data
[ ] Driver/occupant interview
[ ] Other (specify):

_____
[ ] Unknown if belt used

AIR BAG SYSTEM FUNCTION

30. Frontal Air Bag System Availability/Function (This Occupant Position) 1
(0) Not equipped/not available
(1) Air bag

Non-functional
(2) Air bag disconnected (specify):

_____
(3) Air bag not reinstalled
(9) Unknown

31. Frontal Air Bag System Deployment (This Occupant Position) 1
(0) Not equipped/not available
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, details unknown
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

32. Other Than First Seat Frontal Air Bag Availability/Function (This Occupant Position) 0
(0) Not equipped/not available
(1) Air bag

Non-functional
(2) Air bag disconnected (specify):

_____
(3) Air bag not reinstalled
(9) Unknown

Specify type of "other" air bag present:

_____

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0
(0) Not equipped with an "other" air bag
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, details unknown
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

34. Are There Indications of Air Bag System Failure? (This Occupant Position) 1
(0) Not equipped/not available
(1) No
(2) Yes (specify):

_____
(9) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 1
(0) Not equipped/not available
(1) No previous accidents

Yes
(2) Previous accident(s) without deployment(s)
(3) One previous accident with deployment
(4) More than one previous accident with at least one deployment
(8) Previous accidents, unknown deployment status
(9) Unknown

36. Type of Air Bag 1
(0) Not equipped/not available
(1) Original manufacturer installed system
(2) Retrofitted air bag
(3) Replacement air bag
(8) Unknown type of air bag
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 1
(0) Not equipped/not available
(1) No prior maintenance
(2) Yes, prior maintenance (specify): _____
(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 99
(00) Not equipped/not available
_____ Code the accident event sequence number that initiated the air bag deployment
(96) Deployed, unknown event
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

39. CDC For Air Bag Deployment Impact 9
(0) Not equipped/not available
(1) Highest delta V
(2) Second highest delta V
(3) Other non-coded delta V (specify): _____
(6) Deployed, unknown event
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

40. Longitudinal Component of Delta V For Air Bag Deployment Impact +-996
(_000) Not equipped/not available
Code the value of the delta V for the impact that initiated the air bag deployment
(_996) Deployment, unknown longitudinal Delta V
(_997) Not deployed
(_998) Unknown if deployed
(_999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 2
(0) Not equipped/not available
(1) No
(2) Yes
(3) Deployed, unknown if flap(s) opened at designated tear points
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 1
(0) Not equipped/not available
(1) No
(2) Yes (specify): _____
(3) Deployed, unknown if air bag module cover flap(s) damaged
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

43. Was There Damage To The Air Bag? 01
(00) Not equipped/not available
(01) Not damaged

Yes - Air Bag Damage
(02) Ruptured
(03) Cut
(04) Torn
(05) Holed
(06) Burned
(07) Abraded
(88) Other damage (specify): _____
(95) Damaged, details unknown
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION *continued*

44. Source of Air Bag Damage 01
(00) Not equipped/not available
(01) Not damaged
(02) Object worn by occupant, (specify):
(03) Object carried by occupant, (specify):
(04) Adaptive/assistive controls, (specify):
(05) Fire in vehicle
(06) Thermal burns
(07) Rescue or emergency efforts
(88) Other damage source (specify):
(95) Damaged, unknown source
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

45. Was The Air Bag Tethered? 2
(0) Not equipped/not available
(1) No
(2) Yes (specify number of tether straps): 2
(3) Deployed, unknown if tethered
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

46. Did The Air Bag Have Vent Ports? 2
(0) Not equipped/not available
(1) No
(2) Yes (specify number of vent ports): 2
(3) Deployed, unknown if vent ports present
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 1
(0) Not equipped/not available
(1) No
(2) Yes (specify):
(3) Deployed, unknown if other occupant contact to air bag
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

48. Was This Occupant Wearing Eye-wear? ___
(0) Not air bag equipped/air bag not available
(1) No
(2) Eyeglasses/sunglasses
(3) Contact lenses
(4) Deployed, unknown if eyewear worn
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION

49. Head Restraint Type/Damage by Occupant at This Occupant Position 3
(0) No head restraints
(1) Integral—no damage
(2) Integral—damaged during accident
(3) Adjustable—no damage
(4) Adjustable—damaged during accident
(5) Add-on—no damage
(6) Add-on—damaged during accident
(8) Other (specify):
(9) Unknown

50. Seat Type (this Occupant Position) 01
(00) Occupant not seated or no seat
(01) Bucket
(02) Bucket with folding back
(03) Bench
(04) Bench with separate back cushions
(05) Bench with folding back(s)
(06) Split bench with separate back cushions
(07) Split bench with folding back(s)
(08) Pedestal (i.e., column supported)
(09) Box mounted seat (i.e., van type)
(10) Other seat type (specify):
(99) Unknown

51. Seat Orientation (this Occupant Position) 1
(0) Occupant not seated or no seat
(1) Forward facing seat
(2) Rear facing seat
(3) Side facing seat (inward)
(4) Side facing seat (outward)
(8) Other (specify):
(9) Unknown

52. Seat Track Adjusted Position Prior To Impact 3
(0) Occupant not seated or no seat
(1) Non-adjustable seat track

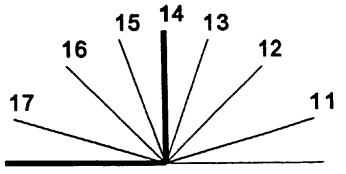
Adjustable Seat Track
(2) Seat at forward most track position
(3) Seat between forward most and middle track positions
(4) Seat at middle track position
(5) Seat between middle and rear most track positions
(6) Seat at rear most track position
(9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION *continued*

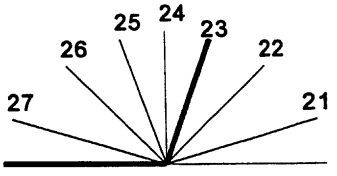
53. Seat Back Incline Prior and Post Impact 13

(00) Occupant not seated or no seat
(01) Not adjustable

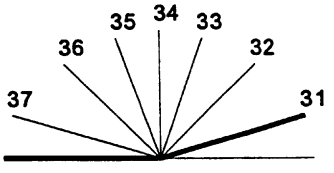
Upright prior to impact
(11) Moved to completely rearward position
(12) Moved to rearward midrange position
(13) Moved to slightly rearward position
(14) Retained pre-impact position
(15) Moved to slightly forward position
(16) Moved to forward midrange position
(17) Moved to completely forward position



Slightly reclined prior to impact
(21) Moved to completely rearward position
(22) Moved to rearward midrange position
(23) Retained pre-impact position
(24) Moved to upright position
(25) Moved to slightly forward position
(26) Moved to forward midrange position
(27) Moved to completely forward position



Completely reclined prior to impact
(31) Retained pre-impact position
(32) Moved to rearward midrange position
(33) Moved to slightly rearward position
(34) Moved to upright position
(35) Moved to slightly forward position
(36) Moved to forward midrange position
(37) Moved to completely forward position



(99) Unknown

54. Seat Performance (this Occupant Position) 1

(0) Occupant not seated or no seat
(1) No seat performance failure(s)
(2) Seat adjusters failed
(3) Seat back folding locks or "seat back" failed (specify):_____
(4) Seat track/anchors failed
(5) Deformed by impact of occupant
(6) Deformed by passenger compartment intrusion, (specify):_____
_____
(7) Combination of above (specify):
_____
(8) Other (specify): _____
(9) Unknown

CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 0 0 0
(000) No child safety seat
Applicable codes are found in your NASS CDS Data Collection, Coding and Editing
(950) Built-in child safety seat
(997) Other make/model (specify):

(998) Unknown make/model
(999) Unknown if child safety seat used

56. Type of Child Safety Seat 0
(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat - with shield
(5) Booster seat - without shield
(7) Other type child safety seat (specify):

(8) Unknown child safety seat type
(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 0 0
(00) No child safety seat

Designed for Rear Facing for This Age/Weight
(01) Rear facing
(02) Forward facing
(08) Other orientation (specify):

(09) Unknown orientation

Designed For Forward Facing for This Age/Weight
(11) Rear facing
(12) Forward facing
(18) Other orientation (specify):

(19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight
(21) Rear facing
(22) Forward facing
(28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 0 0

59. Child Safety Seat Shield Usage 0 0

60. Child Safety Seat Tether Usage 0 0

Note: Options below applicable to Variables OA58-OA60.
(00) No child safety seat

Not Designed With Harness/Shield/Tether
(01) After market harness/shield/tether added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market harness/shield/tether added
(09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether
(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether
(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES

61. Injury Severity (Police Rating) 1

(0) O - No injury
(1) C - Possible injury
(2) B - Nonincapacitating injury
(3) A - Incapacitating injury
(4) K - Killed
(5) U - Injury, severity unknown
(6) Died prior to accident
(9) Unknown

62. Treatment - Mortality 0

(0) No treatment
(1) Fatal
(2) Fatal - ruled disease (specify):

_____

Nonfatal
(3) Hospitalization
(4) Transported and released
(5) Treatment at scene - nontransported
(6) Treatment later
(7) Treatment - other (specify):

_____

(8) Transported to a medical facility-unknown if treated
(9) Unknown

63. Type Of Medical Facility (for Initial Treatment) 0

(0) Not treated at a medical facility
(1) Trauma center
(2) Hospital
(3) Medical clinic
(4) Physician's office
(5) Treatment later at medical facility
(8) Other (specify):

_____

(9) Unknown

64. Hospital Stay 0 0

(00) Not Hospitalized
_____Code the number of days (up through 60) that the occupant stayed in hospital.
(61) 61 days or more
(99) Unknown

65. Working Days Lost 9 9

_____Code the number of days (up through 60) that the occupant lost from work due to the accident
(00) No working days lost
(61) 61 days or more
(62) Fatally injured
(97) Not working prior to accident
(99) Unknown

STOP WORK HERE

VARIABLES 66-74

TO BE CODED BY THE ZONE CENTER

TO BE CODED BY THE ZONE CENTER

INJURY CONSEQUENCES

66. Time to Death ___0 0___
_____Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 +n up through 30 days = 60)
(00) Not fatal
(96) Fatal - ruled disease
(99) Unknown

67. 1st Medically Reported Cause of Death ___0 0___

68. 2nd Medically Reported Cause of Death ___0 0___

69. 3rd Medically Reported Cause of Death ___0 0___
_____Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
(00) Not fatal or no additional causes
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):
_____
(97) Other result (includes fatal ruled disease) (specify):
_____
(99) Unknown

70. Number of Recorded Injuries for This Occupant ___0 2___
_____Code the actual number of injuries recorded for this occupant.
(00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

TRAUMA DATA

71. Glasgow Coma Scale (GCS) Score (at Medical Facility) ___0 1___
(00) Not injured
(01) Injured - not treated at medical facility
(02) No GCS Score at medical facility
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.
(97) Injured, details unknown
(99) Unknown if injured

72. Was the Occupant Given Blood? ___1___
(1) No - blood not given
(2) Yes - blood given
(specify units):_____
(9) Unknown if blood given

73. Arterial Blood Gases (ABG) - HCO_3 ___0 1___
(00) Not injured
(01) Injured, ABGs not measured or reported
(02-50) Code the actual value of the HCO_3
(96) ABGs reported , HCO_3 unknown
(97) Injured, details unknown
(99) Unknown if injured

BELT USE DETERMINATION

74. Primary Source of Belt Use Determination ___1___
(0) Not equipped/not available/destroyed or rendered inoperative
(1) Vehicle inspection
(2) Official injury data
(3) Driver/occupant interview
(8) Other (specify):_____
(9) Unknown if belt used

U.S. Department of Transportation
National Highway Traffic Safety Administration

OCCUPANT INJURY FORM

Form Approved
O.M.B. No. 2127-0021
NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

~~1. Primary Sampling Unit Number~~	01	3. Vehicle Number	01
2. Case Number - Stratum	96-08	4. Occupant Number	01

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	A.I.S. - 90 Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
1st	5. 7	6. 2	7. 9	8. 02	9. 02	10. 1	11. 2	12. 171	13. 1	14. 1	15. 00
2nd	16. 7	17. 7	18. 9	19. 04	20. 02	21. 1	22. 1	23. 170	24. 1	25. 1	26. 00
3rd	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.
4th	38.	39.	40.	41.	42.	43.	44.	45.	46.	47.	48.
5th	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.
6th	60.	61.	62.	63.	64.	65.	66.	67.	68.	69.	70.
7th	71.	72.	73.	74.	75.	76.	77.	78.	79.	80.	81.
8th	82.	83.	84.	85.	86.	87.	88.	89.	90.	91.	92.
9th	93.	94.	95.	96.	97.	98.	99.	100.	101.	102.	103.
10th	104.	105.	106.	107.	108.	109.	110.	111.	112.	113.	114.

OCCUPANT INJURY CLASSIFICATION

Body Region

(1) Head
(2) Face
(3) Neck
(4) Thorax
(5) Abdomen
(6) Spine
(7) Upper Extremity
(8) Lower Extremity
(9) Unspecified

Type of Anatomic Structure

(1) Whole Area
(2) Vessels
(3) Nerves
(4) Organs (includes Muscles/ligaments)
(5) Skeletal (includes joints)
(6) Head - LOC
(9) Skin

Specific Anatomic Structure

Vessels, Nerves, Organs, Bones, Joints are assigned consecutive two digit numbers beginning with 02.

The exceptions to this rule apply to:

Whole Area
(02) Skin - Abrasion
(04) Skin - Contusion
(06) Skin - Laceration
(08) Skin - Avulsion
(10) Amputation
(20) Burn
(30) Crush
(40) Degloving
(50) Injury - NFS
(90) Trauma, other than mechanical

Head - LOC
(02) Length of LOC

(04) Level
(06) of
(08) Consciousness

(10) Concussion

Spine
(02) Cervical
(04) Thoracic
(06) Lumbar

Level of Injury

Specific injuries are assigned consecutive two-digit numbers beginning with 02.

To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.

Abbreviated Injury Scale

(1) Minor Injury
(2) Moderate Injury
(3) Serious Injury
(4) Severe Injury
(5) Critical Injury
(6) Maximum (untreatable)
(7) Injured, unknown severity

Aspect

(1) Right
(2) Left
(3) Bilateral
(4) Central
(5) Anterior
(6) Posterior
(7) Superior
(8) Inferior
(9) Unknown
(0) Whole region

SOURCE OF INJURY DATA

OFFICIAL RECORDS
(1) Autopsy records with or without hospital/medical records
(2) Hospital/medical records other than emergency room (e.g., discharge summary)
(3) Emergency room records only (including associated X-rays or other lab reports)
(4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS
(5) Lay coroner report
(6) E.M.S. personnel
(7) Interviewee
(8) Other source (specify): _____
(9) Police

INJURY SOURCE CONFIDENCE LEVEL

(1) Certain
(2) Probable
(3) Possible
(9) Unknown

DIRECT/INDIRECT INJURY

(1) Direct contact injury
(2) Indirect contact injury
(3) Noncontact injury
(7) Injured, unknown source

OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Restrained?

___ No

___ Yes

Blood Alcohol Level (mg/dl)

BAL = ____

Glasgow Coma Scale Score

GCSS = ____

Units of Blood Given

Units = ____

Arterial Blood Gases

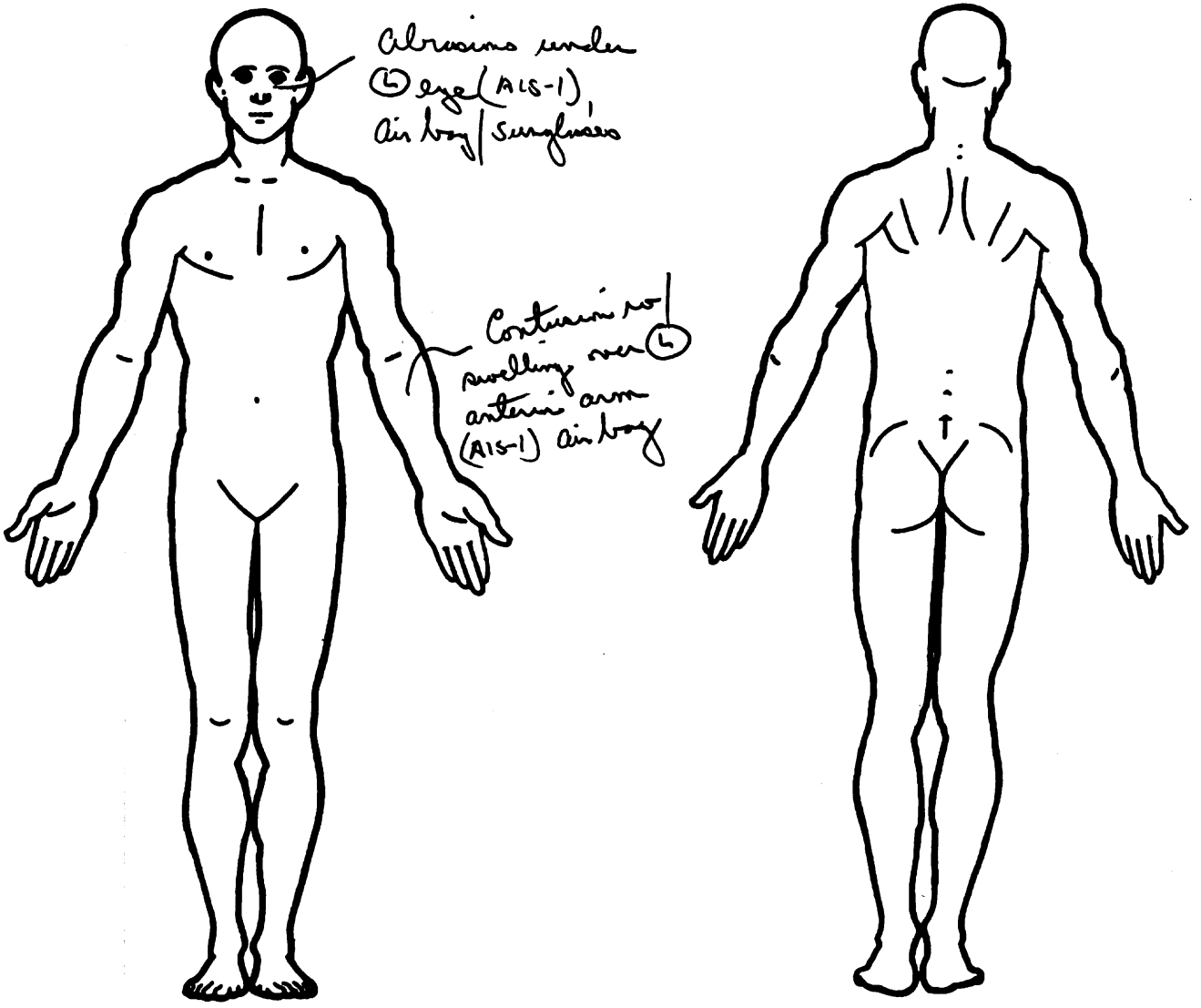
pH = __.__

PO_2 = ____

PCO_2 ____

HCO_3 ____

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)



U.S. Department of Transportation
National Highway Traffic Safety Administration

OCCUPANT ASSESSMENT FORM

Form Approved
O.M.B. No. 2127-0021

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. ~~Primary Sampling Unit Number~~ ____
2. Case Number - Stratum 9608
3. Vehicle Number 01
4. Occupant Number 02

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 00
Code actual age at time of accident.
(00) Less than one year old (specify by month): 3 months
(97) 97 years and older
(99) Unknown

6. Occupant's Sex 1
(1) Male
(2) Female-not reported pregnant
(3) Female-pregnant-1st trimester(1st-3rd month)
(4) Female-pregnant-2nd trimester(4th-6th month)
(5) Female-pregnant-3rd trimester(7th-9th month)
(6) Female-pregnant-term unknown
(9) Unknown

7. Occupant's Height 058
Code actual height to the nearest centimeter.
(999) Unknown

23 inches X 2.54 = 58.4 centimeters

8. Occupant's Weight 008
Code actual weight to the nearest kilogram.
(999) Unknown

018 pounds X .4536 = 8.2 kilograms

9. Occupant's Role 2
(1) Driver
(2) Passenger
(9) Unknown

OCCUPANT'S SEATING

10. Occupant's Seat Position 13

Front Seat
(11) Left side
(12) Middle
(13) Right side
(14) Other (specify): ____
(15) On or in the lap of another occupant

Second Seat
(21) Left side
(22) Middle
(23) Right side
(24) Other (specify): ____
(25) On or in the lap of another occupant

Third Seat
(31) Left side
(32) Middle
(33) Right side
(34) Other (specify): ____
(35) On or in the lap of another occupant

Fourth Seat
(41) Left side
(42) Middle
(43) Right side
(44) Other (specify): ____
(45) On or in the lap of another occupant

(97) In or on unenclosed area
(98) Other seat (specify): ____
(99) Unknown

11. Occupant's Posture 6
(0) Normal posture

Abnormal posture
(1) Kneeling or standing on seat
(2) Lying on or across seat
(3) Kneeling, standing or sitting in front of seat
(4) Sitting sideways or turned to talk with another occupant or to look out a rear window
(5) Sitting on a console
(6) Lying back in a reclined seat position
(7) Bracing with feet or hands on a surface in front of seat
(8) Other abnormal posture (specify): ____
(9) Unknown

HS Form 433A (1/96)

This report is authorized by P.L. 89-563, Title 1, Section 106, 108, and 112. While you are not required to respond, your cooperation is needed to make the results of this data collection effort comprehensive, accurate, and timely.

EJECTION/ENTRAPMENT

12. Ejection 0
    (0) No ejection
    (1) Complete ejection
    (2) Partial ejection
    (3) Ejection, unknown degree
    (9) Unknown

13. Ejection Area 0
    (0) No ejection
    (1) Windshield
    (2) Left front
    (3) Right front
    (4) Left rear
    (5) Right rear
    (6) Rear
    (7) Roof
    (8) Other area (e.g., back of pickup, etc.)
    (specify):_____
    (9) Unknown

14. Ejection Medium 0
    (0) No ejection
    (1) Door/hatch/tailgate
    (2) Nonfixed roof structure
    (3) Fixed glazing
    (4) Nonfixed glazing (specify):
    _____
    (5) Integral structure
    (8) Other medium (specify):
    _____
    (9) Unknown

15. Medium Status (Immediately Prior To Impact) 0
    (0) No ejection
    (1) Open
    (2) Closed
    (3) Integral structure
    (9) Unknown

16. Entrapment 0
    (0) Not entrapped/exit not inhibited
    (1) Entrapped/pinned - mechanically restrained
    (2) Could not exit vehicle due to jammed doors, fire, etc.
    (specify):_____
    _____
    (9) Unknown

17. Occupant Mobility 2
    (0) Occupant fatal before removed from vehicle
    (1) Removed from vehicle while unconscious or not oriented to time or place
    (2) Removed from vehicle due to perceived serious injuries
    (3) Exited vehicle with some assistance
    (4) Exited vehicle under own power
    (5) Occupant fully ejected
    (8) Removed from vehicle for other reasons
    (specify): _____
    (9) Unknown

BELT SYSTEM FUNCTION

18. Manual (Active) Belt System Availability — 4
(0) None available
(1) Belt removed/destroyed
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt available—type unknown

Integral Belt Partially Destroyed
(6) Shoulder belt (lap belt destroyed/removed)
(7) Lap belt (shoulder belt destroyed/removed)
(8) Other belt (specify):
(9) Unknown

19. Manual (Active) Belt System Use — 13
(00) None used, not available, or belt removed/destroyed
(01) Inoperative (specify):
(02) Shoulder belt
(03) Lap belt
(04) Lap and shoulder belt
(05) Belt used—type unknown
(08) Other belt used (specify):
(12) Shoulder belt used with child safety seat
(13) Lap belt used with child safety seat
(14) Lap and shoulder belt used with child safety seat
(15) Belt used with child safety seat—type unknown
(18) Other belt used with child safety seat (specify):
(99) Unknown if belt used

20. Proper Use of Manual (Active) Belts — 2
(0) None used or not available
(1) Belt used properly
(2) Belt used properly with child safety seat

Belt Used Improperly
(3) Shoulder belt worn under arm
(4) Shoulder belt worn behind back or seat
(5) Belt worn around more than one person
(6) Lap belt worn on abdomen
(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):
(8) Other improper use of manual belt system (specify):
(9) Unknown

21. Manual (Active) Belt Failure Modes During Accident — 1
(0) No manual belt used or not available
(1) No manual belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):
(6) Broken retractor
(7) Combination of above (specify):
(8) Other manual belt failure (specify):
(9) Unknown

22. Manual Shoulder Belt Upper Anchorage Adjustment — 4
(0) No manual shoulder belt
(1) No upper anchorage adjustment for manual shoulder belt

Adjustable shoulder Belt Upper Anchorage
(2) In full up position
(3) In mid position
(4) In full down position
(5) Position unknown
(9) Unknown if position has adjustable upper anchorage adjustment

23. Automatic (Passive) Belt System Availability/ Function — 0
(0) Not equipped/not available
(1) 2 point automatic belts
(2) 3 point automatic belts
(3) Automatic belts - type unknown

Non-functional
(4) Automatic belts destroyed or rendered inoperative
(9) Unknown

24. Automatic (Passive) Belt System Use — 0
(0) Not equipped/not available/destroyed or rendered inoperative
(1) Automatic belt in use
(2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):
(3) Automatic belt use unknown
(9) Unknown

25. Automatic (Passive) Belt System Type — 0
(0) Not equipped/not available
(1) Non-motorized system
(2) Motorized system
(9) Unknown

26. Proper Use of Automatic (Passive) Belt System — 0
(0) Not equipped/not available/not used
(1) Automatic belt used properly
(2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly
(3) Automatic shoulder belt worn under arm
(4) Automatic shoulder belt worn behind back
(5) Automatic belt worn around more than one person
(6) Lap portion of automatic belt worn on abdomen
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):
(8) Other improper use of automatic belt system (specify):
(9) Unknown

27. Automatic (Passive) Belt Failure Modes During Accident — 0
(0) Not equipped/not available/not in use
(1) No automatic belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):
(6) Broken retractor
(7) Combination of above (specify):
(8) Other automatic belt failure (specify):
(9) Unknown

POLICE REPORTED RESTRAINT USE

28. Police Reported Belt Use 6
(0) None used
(1) Police did not indicate belt use
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt used, type not specified
(6) Child safety seat
(7) Automatic belt
(8) Other type belt, (specify):

_____

(9) Police indicated "unknown"

29. Police Reported Air Bag Availability/Function 2
(0) No air bag available
(1) Police did not indicate air bag availability/function
(2) Deployed
(3) Not deployed
(4) Unknown if deployed
(9) Police indicated "unknown"

Check the Primary Source Used In Determining Belt Use.

[ ] Vehicle inspection
[ ] Official injury data
[ ] Driver/occupant interview
[ ] Other (specify):

_____

[ ] Unknown if belt used

AIR BAG SYSTEM FUNCTION

30. Frontal Air Bag System Availability/Function (This Occupant Position) 1
(0) Not equipped/not available
(1) Air bag

Non-functional
(2) Air bag disconnected (specify):

_____

(3) Air bag not reinstalled
(9) Unknown

31. Frontal Air Bag System Deployment (This Occupant Position) 1
(0) Not equipped/not available
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, details unknown
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

32. Other Than First Seat Frontal Air Bag Availability/Function (This Occupant Position) 0
(0) Not equipped/not available
(1) Air bag

Non-functional
(2) Air bag disconnected (specify):

_____

(3) Air bag not reinstalled
(9) Unknown

Specify type of "other" air bag present:

_____

33. Air Bag(s) Deployment, Other Than First Seat Frontal (This Occupant Position) 0
(0) Not equipped with an "other" air bag
(1) Deployed during accident (as a result of impact)
(2) Deployed inadvertently just prior to accident
(3) Deployed, details unknown
(4) Deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(5) Unknown if deployed
(7) Nondeployed
(9) Unknown

34. Are There Indications of Air Bag System Failure? (This Occupant Position) 1
(0) Not equipped/not available
(1) No
(2) Yes (specify):

_____

(9) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION

35. Had Vehicle Been in Previous Accident(s)? 1
(0) Not equipped/not available
(1) No previous accidents

Yes
(2) Previous accident(s) without deployment(s)
(3) One previous accident with deployment
(4) More than one previous accident with at least one deployment
(8) Previous accidents, unknown deployment status
(9) Unknown

36. Type of Air Bag 1
(0) Not equipped/not available
(1) Original manufacturer installed system
(2) Retrofitted air bag
(3) Replacement air bag
(8) Unknown type of air bag
(9) Unknown

37. Had Any Prior Maintenance/Service Been Performed On This Air Bag System? 1
(0) Not equipped/not available
(1) No prior maintenance
(2) Yes, prior maintenance (specify): _____
(9) Unknown

38. Air Bag Deployment Accident Event Sequence Number 99
(00) Not equipped/not available
_____ Code the accident event sequence number that initiated the air bag deployment
(96) Deployed, unknown event
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

39. CDC For Air Bag Deployment Impact 9
(0) Not equipped/not available
(1) Highest delta V
(2) Second highest delta V
(3) Other non-coded delta V (specify): _____
(6) Deployed, unknown event
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

40. Longitudinal Component of Delta V For Air Bag Deployment Impact + - 996
(_000) Not equipped/not available
Code the value of the delta V for the impact that initiated the air bag deployment
(_996) Deployment, unknown longitudinal Delta V
(_997) Not deployed
(_998) Unknown if deployed
(_999) Unknown

41. Did Air Bag Module Cover Flap(s) Open At Designated Tear Points? 2
(0) Not equipped/not available
(1) No
(2) Yes
(3) Deployed, unknown if flap(s) opened at designated tear points
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

42. Were Air Bag Module Cover Flap(s) Damaged? 1
(0) Not equipped/not available
(1) No
(2) Yes (specify): _____
(3) Deployed, unknown if air bag module cover flap(s) damaged
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

43. Was There Damage To The Air Bag? 01
(00) Not equipped/not available
(01) Not damaged

Yes - Air Bag Damage
(02) Ruptured
(03) Cut
(04) Torn
(05) Holed
(06) Burned
(07) Abraded
(88) Other damage (specify): _____
(95) Damaged, details unknown
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

FIRST SEAT FRONTAL AIR BAG SYSTEM EVALUATION *continued*

44. Source of Air Bag Damage 01
(00) Not equipped/not available
(01) Not damaged
(02) Object worn by occupant, (specify):
(03) Object carried by occupant, (specify):
(04) Adaptive/assistive controls, (specify):
(05) Fire in vehicle
(06) Thermal burns
(07) Rescue or emergency efforts
(88) Other damage source (specify):
(95) Damaged, unknown source
(96) Deployed, unknown if damaged
(97) Not deployed
(98) Unknown if deployed
(99) Unknown

45. Was The Air Bag Tethered? 2
(0) Not equipped/not available
(1) No
(2) Yes (specify number of tether straps): 2
(3) Deployed, unknown if tethered
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

46. Did The Air Bag Have Vent Ports? 2
(0) Not equipped/not available
(1) No
(2) Yes (specify number of vent ports): 2
(3) Deployed, unknown if vent ports present
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

47. Was the Air Bag in this Occupant's Position Contacted by Another Occupant? 1
(0) Not equipped/not available
(1) No
(2) Yes (specify):
(3) Deployed, unknown if other occupant contact to air bag
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

48. Was This Occupant Wearing Eye-wear? 1
(0) Not air bag equipped/air bag not available
(1) No
(2) Eyeglasses/sunglasses
(3) Contact lenses
(4) Deployed, unknown if eyewear worn
(7) Not deployed
(8) Unknown if deployed
(9) Unknown

HEAD RESTRAINT AND SEAT EVALUATION

49. Head Restraint Type/Damage by Occupant at This Occupant Position 3
(0) No head restraints
(1) Integral—no damage
(2) Integral—damaged during accident
(3) Adjustable—no damage
(4) Adjustable—damaged during accident
(5) Add-on—no damage
(6) Add-on—damaged during accident
(8) Other (specify):
(9) Unknown

50. Seat Type (this Occupant Position) 01
(00) Occupant not seated or no seat
(01) Bucket
(02) Bucket with folding back
(03) Bench
(04) Bench with separate back cushions
(05) Bench with folding back(s)
(06) Split bench with separate back cushions
(07) Split bench with folding back(s)
(08) Pedestal (i.e., column supported)
(09) Box mounted seat (i.e., van type)
(10) Other seat type (specify):
(99) Unknown

51. Seat Orientation (this Occupant Position) 1
(0) Occupant not seated or no seat
(1) Forward facing seat
(2) Rear facing seat
(3) Side facing seat (inward)
(4) Side facing seat (outward)
(8) Other (specify):
(9) Unknown

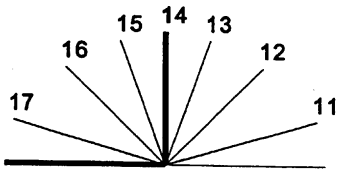
52. Seat Track Adjusted Position Prior To Impact 3
(0) Occupant not seated or no seat
(1) Non-adjustable seat track

Adjustable Seat Track
(2) Seat at forward most track position
(3) Seat between forward most and middle track positions
(4) Seat at middle track position
(5) Seat between middle and rear most track positions
(6) Seat at rear most track position
(9) Unknown

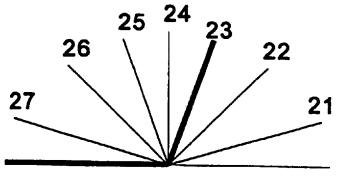
HEAD RESTRAINT AND SEAT EVALUATION *continued*

53. Seat Back Incline Prior and Post Impact 13
    (00) Occupant not seated or no seat
    (01) Not adjustable

Upright prior to impact
    (11) Moved to completely rearward position
    (12) Moved to rearward midrange position
    (13) Moved to slightly rearward position
    (14) Retained pre-impact position
    (15) Moved to slightly forward position
    (16) Moved to forward midrange position
    (17) Moved to completely forward position

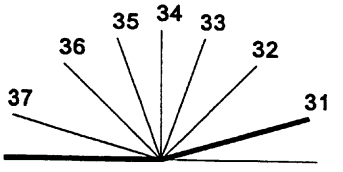


Slightly reclined prior to impact
    (21) Moved to completely rearward position
    (22) Moved to rearward midrange position
    (23) Retained pre-impact position
    (24) Moved to upright position
    (25) Moved to slightly forward position
    (26) Moved to forward midrange position
    (27) Moved to completely forward position



Completely reclined prior to impact
    (31) Retained pre-impact position
    (32) Moved to rearward midrange position
    (33) Moved to slightly rearward position
    (34) Moved to upright position
    (35) Moved to slightly forward position
    (36) Moved to forward midrange position
    (37) Moved to completely forward position

    (99) Unknown



54. Seat Performance (this Occupant Position) 1
    (0) Occupant not seated or no seat
    (1) No seat performance failure(s)
    (2) Seat adjusters failed
    (3) Seat back folding locks or "seat back" failed (specify):_____
    (4) Seat track/anchors failed
    (5) Deformed by impact of occupant
    (6) Deformed by passenger compartment intrusion, (specify):_____
    (7) Combination of above (specify):_____
    (8) Other (specify): _____
    (9) Unknown

CHILD SAFETY SEAT

55. Child Safety Seat Make/Model 108
(000) No child safety seat
Applicable codes are found in your NASS CDS Data Collection, Coding and Editing
(950) Built-in child safety seat
(997) Other make/model (specify):

(998) Unknown make/model
(999) Unknown if child safety seat used

56. Type of Child Safety Seat 1
(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat - with shield
(5) Booster seat - without shield
(7) Other type child safety seat (specify):

(8) Unknown child safety seat type
(9) Unknown if child safety seat used

57. Child Safety Seat Orientation 01
(00) No child safety seat

Designed for Rear Facing for This Age/Weight
(01) Rear facing
(02) Forward facing
(08) Other orientation (specify):

(09) Unknown orientation

Designed For Forward Facing for This Age/Weight
(11) Rear facing
(12) Forward facing
(18) Other orientation (specify):

(19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight
(21) Rear facing
(22) Forward facing
(28) Other orientation (specify):

(29) Unknown orientation

(99) Unknown if child safety seat used

58. Child Safety Seat Harness Usage 12

59. Child Safety Seat Shield Usage 03

60. Child Safety Seat Tether Usage 03

Note: Options below applicable to Variables OA58-OA60.
(00) No child safety seat

Not Designed With Harness/Shield/Tether
(01) After market harness/shield/tether added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market harness/shield/tether added
(09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether
(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether
(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES

61. Injury Severity (Police Rating) 4

(0) O - No injury
(1) C - Possible injury
(2) B - Nonincapacitating injury
(3) A - Incapacitating injury
(4) K - Killed
(5) U - Injury, severity unknown
(6) Died prior to accident
(9) Unknown

62. Treatment - Mortality 1
(0) No treatment
(1) Fatal
(2) Fatal - ruled disease (specify):

_____

Nonfatal
(3) Hospitalization
(4) Transported and released
(5) Treatment at scene - nontransported
(6) Treatment later
(7) Treatment - other (specify):

_____

(8) Transported to a medical facility-unknown if treated
(9) Unknown

63. Type Of Medical Facility (for Initial Treatment) 2
(0) Not treated at a medical facility
(1) Trauma center
(2) Hospital
(3) Medical clinic
(4) Physician's office
(5) Treatment later at medical facility
(8) Other (specify):

_____

(9) Unknown

64. Hospital Stay 01
(00) Not Hospitalized
_____Code the number of days (up through 60) that the occupant stayed in hospital.
(61) 61 days or more
(99) Unknown

65. Working Days Lost 97
_____Code the number of days (up through 60) that the occupant lost from work due to the accident
(00) No working days lost
(61) 61 days or more
(62) Fatally injured
(97) Not working prior to accident
(99) Unknown

STOP WORK HERE

VARIABLES 66-74

TO BE CODED BY THE ZONE CENTER

TO BE CODED BY THE ZONE CENTER

INJURY CONSEQUENCES

66. Time to Death — 05
_____Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 +n up through 30 days = 60)
(00) Not fatal
(96) Fatal - ruled disease
(99) Unknown

67. 1st Medically Reported Cause of Death — 05

68. 2nd Medically Reported Cause of Death — 06

69. 3rd Medically Reported Cause of Death — 07
_____Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
(00) Not fatal or no additional causes
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):
_____
(97) Other result (includes fatal ruled disease) (specify):
_____
(99) Unknown

70. Number of Recorded Injuries for This Occupant — 14
_____Code the actual number of injuries recorded for this occupant.
(00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

TRAUMA DATA

71. Glasgow Coma Scale (GCS) Score (at Medical Facility) — 02
(00) Not injured
(01) Injured - not treated at medical facility
(02) No GCS Score at medical facility
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.
(97) Injured, details unknown
(99) Unknown if injured

72. Was the Occupant Given Blood? — 2
(1) No - blood not given
(2) Yes - blood given (specify units): ?
(9) Unknown if blood given

73. Arterial Blood Gases (ABG) – HCO_3 — 01
(00) Not injured
(01) Injured, ABGs not measured or reported
(02-50) Code the actual value of the HCO_3
(96) ABGs reported , HCO_3 unknown
(97) Injured, details unknown
(99) Unknown if injured

BELT USE DETERMINATION

74. Primary Source of Belt Use Determination — 1
(0) Not equipped/not available/destroyed or rendered inoperative
(1) Vehicle inspection
(2) Official injury data
(3) Driver/occupant interview
(8) Other (specify):_____
(9) Unknown if belt used

U.S. Department of Transportation
National Highway Traffic Safety Administration

OCCUPANT INJURY FORM

Form Approved
O.M.B. No. 2127-0021
NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number		3. Vehicle Number	01
2. Case Number - Stratum	9608	4. Occupant Number	02

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	A.I.S. - 90 Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
1st	5. 1	6. 1	7. 5	8. 02	9. 06	10. 4	11. 8	12. 180	13. 1	14. 2	15. 00
2nd	16. 1	17. 1	18. 5	19. 04	20. 02	21. 2	22. 2	23. 180	24. 1	25. 2	26. 00
3rd	27. 1	28. 1	29. 5	30. 04	31. 02	32. 2	33. 1	34. 180	35. 1	36. 2	37. 00
4th	38. 1	39. 1	40. 5	41. 04	42. 02	43. 2	44. 6	45. 180	46. 1	47. 2	48. 00
5th	49. 1	50. 1	51. 4	52. 06	53. 52	54. 4	55. 9	56. 180	57. 1	58. 2	59. 00
6th	60. 1	61. 1	62. 4	63. 04	64. 42	65. 4	66. 6	67. 180	68. 1	69. 2	70. 00
7th	71. 1	72. 1	73. 4	74. 06	75. 84	76. 3	77. 9	78. 180	79. 1	80. 2	81. 00
8th	82. 1	83. 1	84. 4	85. 04	86. 66	87. 3	88. 6	89. 180	90. 1	91. 2	92. 00
9th	93. 1	94. 1	95. 4	96. 06	97. 20	98. 3	99. 9	100. 180	101. 1	102. 2	103. 00
10th	104. 1	105. 1	106. 4	107. 04	108. 54	109. 3	110. 6	111. 180	112. 1	113. 2	114. 00

HS Form 433B (1/96)

This report is authorized by P.L. 89-563, Title 1, Section 106, 108, and 112. While you are not required to respond, your cooperation is needed to make the results of this data collection effort comprehensive, accurate, and timely.

OCCUPANT INJURY DATA

	Source of Injury Data	A.I.S. - 90 Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
11th	1	2	9	24	02	1	1	151	1	1	00
12th	1	2	9	02	02	1	4	151	1	1	00
13th	1	1	9	04	02	1	5	151	1	1	00
14th	1	1	9	04	02	1	0	180	1	2	00
15th	—	—	—	— —	— —	—	—	— — —	—	—	— —
16th	—	—	—	— —	— —	—	—	— — —	—	—	— —
17th	—	—	—	— —	— —	—	—	— — —	—	—	— —
18th	—	—	—	— —	— —	—	—	— — —	—	—	— —
19th	—	—	—	— —	— —	—	—	— — —	—	—	— —
20th	—	—	—	— —	— —	—	—	— — —	—	—	— —
21st	—	—	—	— —	— —	—	—	— — —	—	—	— —
22nd	—	—	—	— —	— —	—	—	— — —	—	—	— —
23rd	—	—	—	— —	— —	—	—	— — —	—	—	— —
24th	—	—	—	— —	— —	—	—	— — —	—	—	— —
25th	—	—	—	— —	— —	—	—	— — —	—	—	— —

OCCUPANT INJURY CLASSIFICATION

Body Region

(1) Head
(2) Face
(3) Neck
(4) Thorax
(5) Abdomen
(6) Spine
(7) Upper Extremity
(8) Lower Extremity
(9) Unspecified

Type of Anatomic Structure

(1) Whole Area
(2) Vessels
(3) Nerves
(4) Organs (includes Muscles/ligaments)
(5) Skeletal (includes joints)
(6) Head - LOC
(9) Skin

Specific Anatomic Structure

Vessels, Nerves, Organs, Bones, Joints are assigned consecutive two digit numbers beginning with 02.

The exceptions to this rule apply to:

Whole Area
(02) Skin - Abrasion
(04) Skin - Contusion
(06) Skin - Laceration
(08) Skin - Avulsion
(10) Amputation
(20) Burn
(30) Crush
(40) Degloving
(50) Injury - NFS
(90) Trauma, other than mechanical

Head - LOC
(02) Length of LOC

(04) Level
(06) of
(08) Consciousness

(10) Concussion

Spine
(02) Cervical
(04) Thoracic
(06) Lumbar

Level of Injury

Specific injuries are assigned consecutive two-digit numbers beginning with 02.

To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.

Abbreviated Injury Scale

(1) Minor Injury
(2) Moderate Injury
(3) Serious Injury
(4) Severe Injury
(5) Critical Injury
(6) Maximum (untreatable)
(7) Injured, unknown severity

Aspect

(1) Right
(2) Left
(3) Bilateral
(4) Central
(5) Anterior
(6) Posterior
(7) Superior
(8) Inferior
(9) Unknown
(0) Whole region

SOURCE OF INJURY DATA

OFFICIAL RECORDS
(1) Autopsy records with or without hospital/medical records
(2) Hospital/medical records other than emergency room (e.g., discharge summary)
(3) Emergency room records only (including associated X-rays or other lab reports)
(4) Private physician, walk-in or emergency clinic

UNOFFICIAL RECORDS
(5) Lay coroner report
(6) E.M.S. personnel
(7) Interviewee
(8) Other source (specify):

_____

(9) Police

INJURY SOURCE CONFIDENCE LEVEL

(1) Certain
(2) Probable
(3) Possible
(9) Unknown

DIRECT/INDIRECT INJURY

(1) Direct contact injury
(2) Indirect contact injury
(3) Noncontact injury
(7) Injured, unknown source

INJURY SOURCES

FRONT
(001) Windshield
(002) Mirror
(003) Sunvisor
(004) Steering wheel rim
(005) Steering wheel hub/spoke
(006) Steering wheel (combination of codes 004 and 005)
(007) Steering column, transmission selector lever, other attachment
(008) Cellular telephone or CB radio
(009) Add on equipment (e.g., tape deck, air conditioner)
(010) Left instrument panel and below
(011) Center instrument panel and below
(012) Right instrument panel and below
(013) Glove compartment door
(014) Knee bolster
(015) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
(016) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
(017) Windshield reinforced by exterior object (specify)

_____

(019) Other front object (specify):

_____

LEFT SIDE
(051) Left side interior surface, excluding hardware or armrests
(052) Left side hardware or armrest
(053) Left A (A1/A2)-pillar
(054) Left B-pillar
(055) Other left pillar (specify):

_____

(056) Left side window glass
(057) Left side window frame
(058) Left side window sill
(059) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
(060) Other left side object (specify):

_____

RIGHT SIDE
(101) Right side interior surface, excluding hardware or armrests
(102) Right side hardware or armrest
(103) Right A (A1/A2)-pillar
(104) Right B-pillar
(105) Other right pillar (specify):

_____

(106) Right side window glass
(107) Right side window frame
(108) Right side window sill
(109) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
(110) Other right side object (specify):

_____

INTERIOR
(151) Seat, back support
(152) Belt restraint webbing/buckle
(153) Belt restraint B-pillar or door frame attachment point
(154) Other restraint system component (specify):

_____

(155) Head restraint system
(160) Other occupants (specify):

_____

(161) Interior loose objects
(162) Child safety seat (specify):

_____

(163) Other interior object (specify):

_____

AIR BAG
(170) Air bag-driver side
(171) Air bag-driver side and eyewear
(172) Air bag-driver side and jewelry
(173) Air bag-driver side and object held
(174) Air bag-driver side and object in mouth
(175) Air bag compartment cover-driver side
(176) Air bag compartment cover-driver side and eyewear
(177) Air bag compartment cover-driver side and jewelry
(178) Air bag compartment cover-driver side and object held
(179) Air bag compartment cover-driver side and object in mouth
(180) Air bag-passenger side
(181) Air bag-passenger side and eyewear
(182) Air bag-passenger side and jewelry
(183) Air bag-passenger side and object held
(184) Air bag-passenger side and object in mouth
(185) Air bag compartment cover-passenger side
(186) Air bag compartment cover-passenger side and eyewear
(187) Air bag compartment cover-passenger side and jewelry
(188) Air bag compartment cover-passenger side and object held
(189) Air bag compartment cover-passenger side and object in mouth
(190) Other air bag (specify)

_____

(195) Other air bag compartment cover (specify)

_____

ROOF
(201) Front header
(202) Rear header
(203) Roof left side rail
(204) Roof right side rail
(205) Roof or convertible top

FLOOR
(251) Floor (including toe pan)
(252) Floor or console mounted transmission lever, including console
(253) Parking brake handle
(254) Foot controls including parking brake

REAR
(301) Backlight (rear window)
(302) Backlight storage rack, door, etc.
(303) Other rear object (specify):

_____

ADAPTIVE (ASSISTIVE) DRIVING EQUIPMENT
(401) Hand controls for braking/acceleration
(402) Steering control devices (attached to OEM steering wheel)
(403) Steering knob attached to steering wheel
(405) Replacement steering wheel (i.e., reduced diameter)
(406) Joy stick steering controls
(407) Wheelchair tie-downs
(408) Modification to seat belts, (specify): _____
(409) Additional or relocated switches, (specify):

_____

(410) Raised roof
(411) Wall mounted head rest (used behind wheel chair)
(412) Other adaptive device (specify):_____

_____

EXTERIOR of OCCUPANT'S VEHICLE
(451) Hood
(452) Outside hardware (e.g., outside mirror, antenna)
(453) Other exterior surface or tires (specify):

_____

_____

(454) Unknown exterior objects

EXTERIOR OF OTHER MOTOR VEHICLE
(501) Front bumper
(502) Hood edge
(503) Other front of vehicle (specify):

_____

(504) Hood
(505) Hood ornament
(506) Windshield, roof rail, A-pillar
(507) Side surface
(508) Side mirrors
(509) Other side protrusions (specify):

_____

(510) Rear surface
(511) Undercarriage
(512) Tires and wheels
(513) Other exterior of other motor vehicle (specify): _____

_____

(514) Unknown exterior of other motor vehicle

OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT
(551) Ground
(598) Other vehicle or object (specify):

_____

(599) Unknown vehicle or object

NONCONTACT INJURY
(601) Fire in vehicle
(602) Flying glass
(603) Other noncontact injury source (specify): _____
(604) Air bag exhaust gases
(697) Injured, unknown source

OFFICIAL INJURY DATA — SOFT TISSUE INJURIES

Restrained?

___ No

___ Yes

Blood Alcohol Level (mg/dl)

BAL = ____

Glasgow Coma Scale Score

GCSS = ____

Units of Blood Given

Units = ____

Arterial Blood Gases

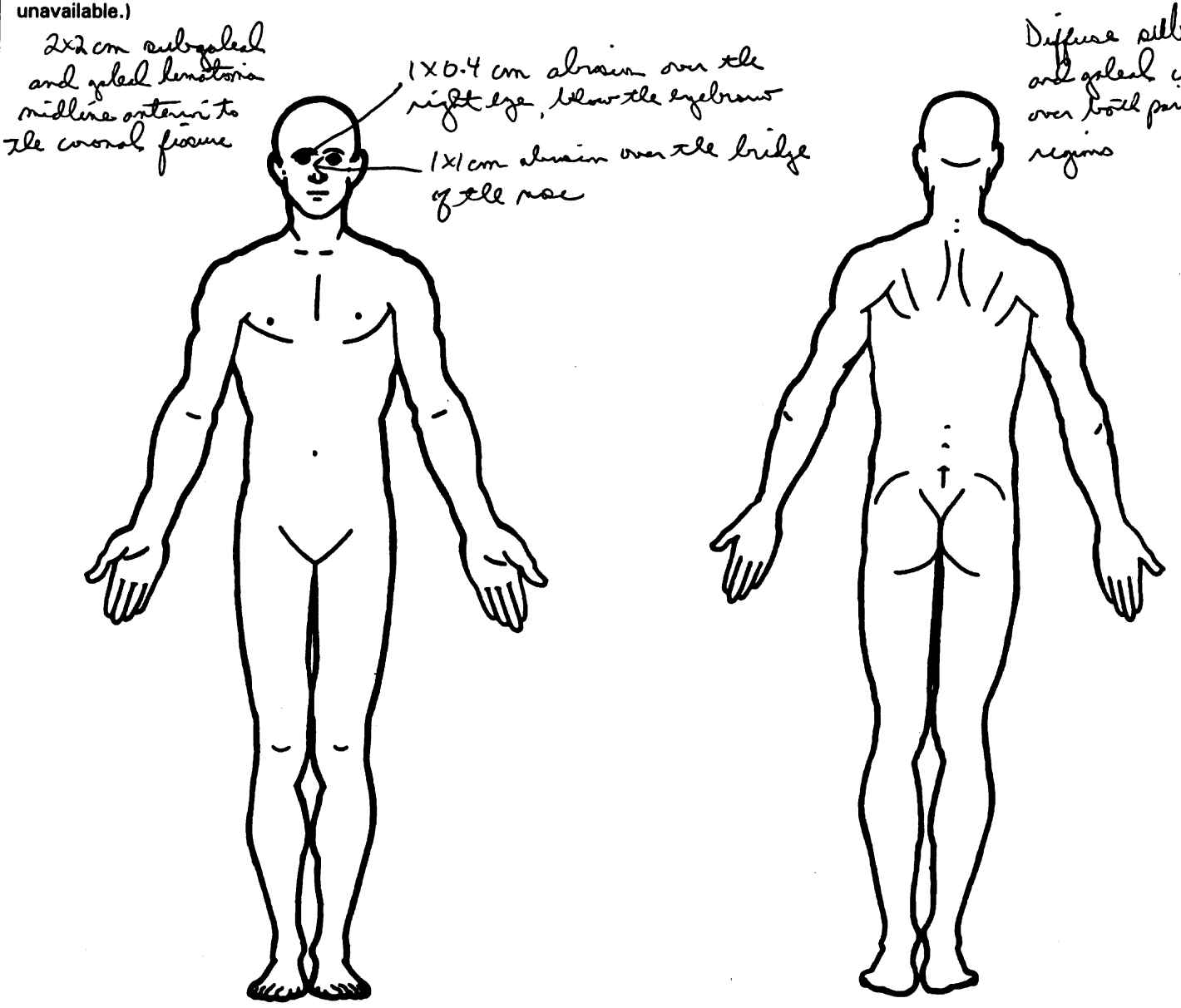
pH = __.__

PO_2 = ____

PCO_2 ____

HCO_3 ____

Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

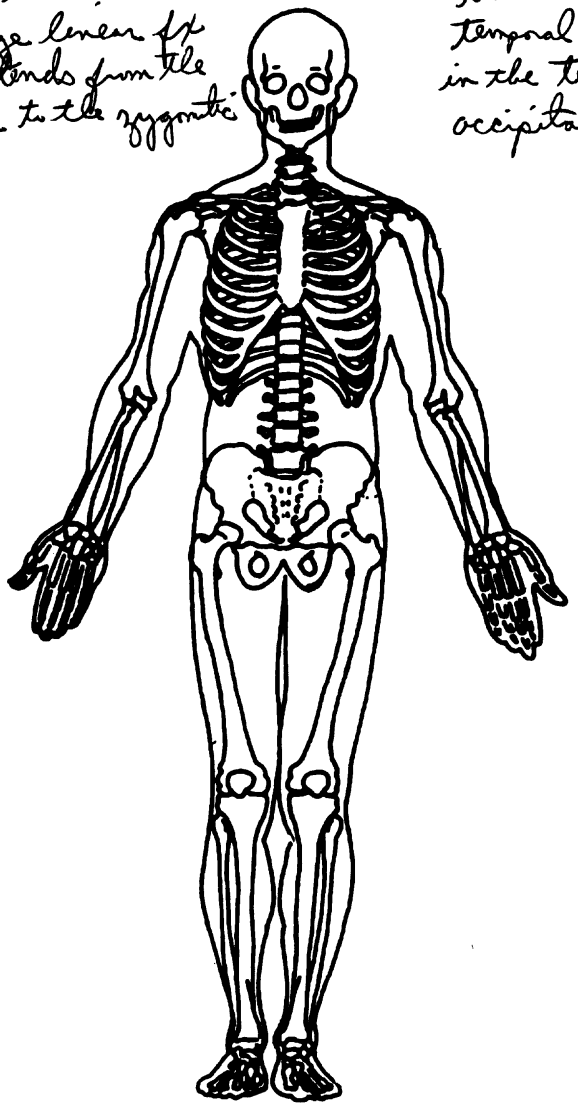


OFFICIAL INJURY DATA — SKELETAL INJURIES

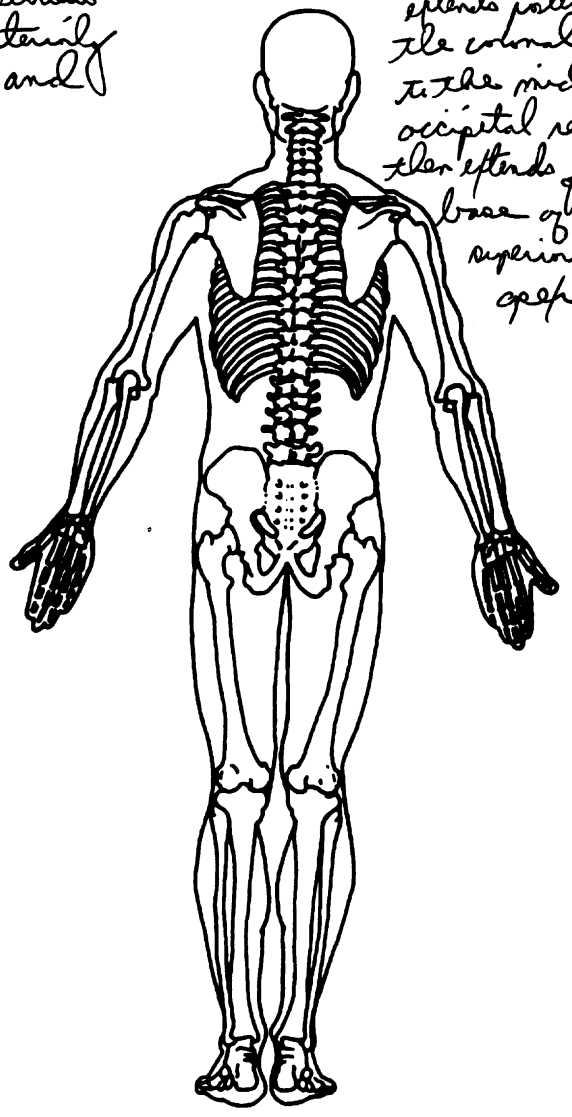
Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

Multiple linear skull fractures posterior to the coronal suture, large linear fx on the (L), extends from the sagittal suture to the zygomatic arch region

Extensive basilar skull fx bilaterally across the petrous temporal ridges and anteriorly in the temporal fossa and occipital regions



Linear (R) skull fx, extends posteriorly from the coronal suture to the mid parieto-occipital region which then extends from the base of the skull superiorly to the apex

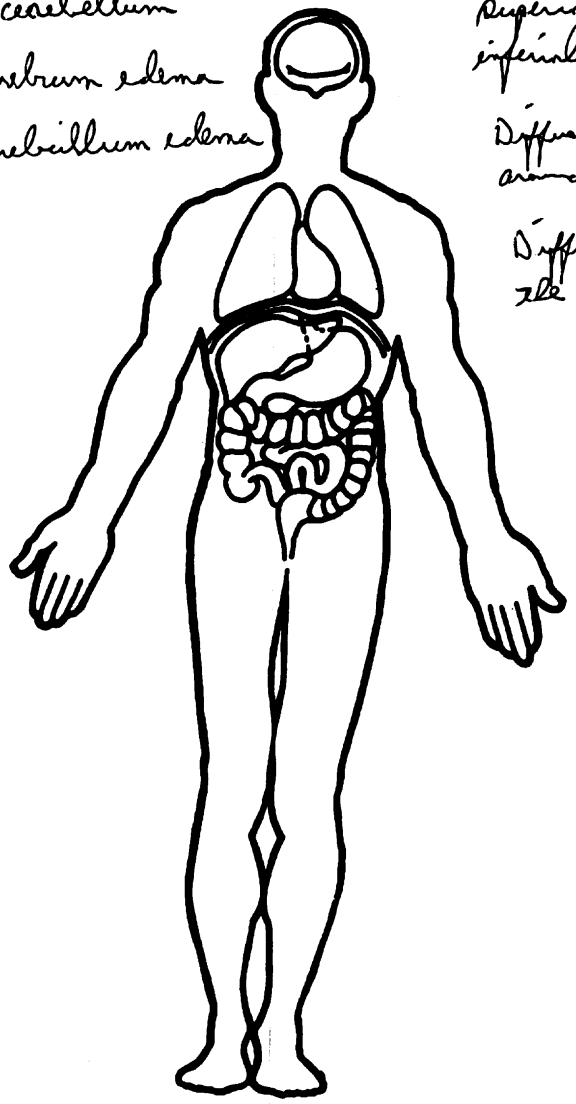


Indicate the Location, Specific Anatomic Structure, Detail (size, depth, fracture type, head injury clinical signs and neurological deficits), and Source of all injuries indicated by official sources (or from PAR or other unofficial sources if medical records and interviewee data are unavailable.)

Diffuse subarachnoid blood in the cerebellum

Mild cerebrum edema

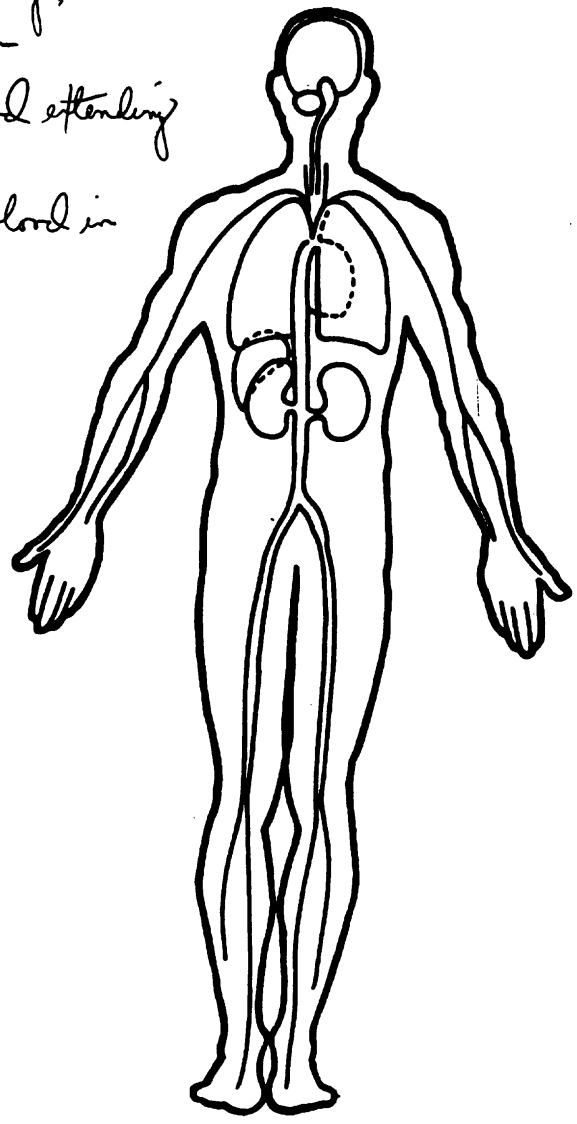
Mild cerebellum edema



Diffuse subdural blood (20ml) superiorly, anteriorly, posteriorly, and inferiorly around cerebrum

Diffuse subdural blood attending around cerebellum

Diffuse subarachnoid blood in the cerebrum



[redacted]

HIGHWAY PATROL

SUBJECT: TRAFFIC HOMICIDE INVESTIGATION RELEASE

CASE NO: [redacted]

INVESTIGATOR: CORPORAL [redacted]
[redacted] HIGHWAY PATROL

THIS IS TO CERTIFY THAT THE ABOVE CAPTIONED CASE WAS REVIEWED BY THE [redacted] HIGHWAY PATROL AND WAS DETERMINED TO BE A CLASS 2 INVESTIGATION AND DOES NOT MEET THE REQUIREMENTS FOR STATE ATTORNEY REVIEW OR RELEASE.

THE [redacted] HIGHWAY PATROL WILL RELEASE THE ABOVE CAPTIONED CASE AS A PUBLIC RECORD IN ACCORDANCE WITH [redacted] STATUTES.

[redacted] Date [redacted] 96
(Signature of Reviewing Supervisor)

[redacted], Sergeant
(Supervisor's Name - Typed/Printed)

[redacted] Date [redacted] 96
(Signature of [redacted] oving Supervisor)

[redacted], Captain
(Supervisor's Name - Typed/Printed)

Case Number [redacted]

[redacted]

[redacted]

HIGHWAY PATROL

TRAFFIC HOMICIDE INVESTIGATION

PREPARED BY: [redacted]

Law Enforcement Investigator I

CASE NO. [redacted]

[redacted]

TABLE OF CONTENTS

Pages(s)

Classification 2

Investigation Reviewed by: [redacted] [redacted]96

Supervisor Date

Case Number [redacted]

[redacted]

IDENTIFICATION

This investigation is the result of a single vehicle rollover collision. The vehicle struck a sign, rolled onto the roof and then struck a tree. The collision occurred on [redacted] 1996, at 2:00 P.M.. It occurred on [redacted] feet south of [redacted] 1 mile east of [redacted]. It resulted in one delayed fatality that occurred on [redacted] 1996, at 9:43 P.M. and one injury.

VEHICLE: V-1

Vehicle 1 is a 1995 Hyundai Accent, 4 door, purple in color. It is equipped with power assisted steering, power assisted brakes and an automatic transmission. There was a factory installed occupant restraint device for all occupant positions as well as air bags for the driver and right front passenger positions. The assigned and attached [redacted] is [redacted]. The vehicle identification number is KMHVF14N7S[redacted]. The registered owner is [redacted].

Occupant: V-1 Driver: [redacted], 1822 [redacted]. She is a 19 year old female possessing a valid [redacted] Class 'E' operator's driver's license. It had no restrictions or endorsements. She was familiar with the vehicle, the area and the route taken. She was using the occupant

restraint available to her and received minor injuries. The air bag for the driver's position did deploy. She was transpoted to [redacted] by [redacted].

Occupant: V-1 Right Front Passenger: [redacted]. He was a 3 month old male. He was seated in an infant seat that was secured to the right front seat. The air bag for the right front passenger seat did deploy. He received fatal injuries and was transported to [redacted] by [redacted]. There were no other occupants in V-1.

INVESTIGATION

[redacted], in the area of collision, is a curved north-south, four lane divided highway. The radius of the curve is 893.55 feet, and the superelevation is plus 2 percent. There is no grade, and the roadway surface is asphalt.

The posted speed limit is 45 miles per hour. The northbound lanes are seperated from each other by intermittent white lines. There is a solid white line, a 16 inch wide concrete curb footer and a 6 inch high concrete curb on the east shoulder. There is a solid yellow line, a 16 inch wide concrete footer and a 6 inch high concrete curb seperating the northbound through lanes from the 16 foot wide grass median. There is a 6 foot wide grass shoulder on the east side of the road as well as a 5 foot wide

concrete sidewalk. There is another 3 feet of grass before the embankment drops 6 feet into trees.

Traffic control and roadway characteristics for southbound [redacted] and for [redacted] did not contribute to this collision and therefore are not listed.

I was notified of this collision on [redacted]-96, at 7:30 A.M.. I met with the crash investigator, Trooper [redacted], at the scene of the crash. Upon my arrival I observed tire striations in the roadway from a vehicle sliding sidewards and crossing onto the shoulder and sidewalk area. I also observed a sign down that had fresh damage to it and furrows near several bushes leading to a tree that had also been freshly damaged. [redacted] stated that he had been dispatched to the crash on [redacted]-96, at 2:11 P.M. and arrived at 2:36 P.M. He stated that upon his arrival he observed V-1 on the ground near the trees on its roof. He stated that he had dispatch call the hospital and get a condition of the driver and any occupants in the vehicle. He was told the condition of all occupants was stable. He then called for a tow truck and proceeded to [redacted]. He stated that he spoke to V-1 driver and that she stated that she just lost control of V-1, and then stated that she thought that someone was going to change into her lane so she steered to the right to avoid colliding with other traffic. He stated that he

did not observe any signs of drug or alcohol consumption or impairment and as a result did not request a blood sample be drawn. He also stated that as he completed his report he could hear V-1 right front passenger crying and was again told his condition was stable. He also stated that he did not observe any adverse weather conditions at the time of the collision that would have contributed to this collision.

At approximately 9:40 P.M. a medical examiner's investigator called the [redacted] station and informed dispatch that V-1 right front passenger's injuries had become fatal. This investigation was assigned to me on [redacted]-96.

After speaking to [redacted], I photographed the scene and began a field diagram to record measurements. I chose a utility pole [redacted] on the east shoulder 22 feet east of the reference line and 39 feet south of the intersection of [redacted] as a marker for the zero point. The zero point is on the reference line. The reference line is the center of the solid while line separating the outside northbound through lane from the east shoulder. There was a light skidmark from the left front tire of V-1 that started 63 feet south of the area V-1 crossed the curb on the east shoulder, in the outside northbound through lane. The skidmark continues 19 feet before the tire leaves a sideslip mark. The right front tire also begins to

leave a mark in the outside northbound through lane. V-1 slides sidewards in the northbound through lane 44 feet before crossing the curb. At this point V-1 is completely sidewards and the right rear tire leaves a furrow on the shoulder and a sideslip mark on the sidewalk. V-1 continues across the shoulder and sidewalk and strikes a wooden sign on the east shoulder, 92 feet north of the area of the initial loss of control. V-1 continues to rotate clockwise as the left side comes in contact with the sign. As V-1 travels down the embankment the air bags deploy striking the back of the rearward facing infant seat V-1 right front passenger is seated in. The force of the air bag causes the rear of the infant seat to crack and forces the seat forward into the back of the right front seat. The combination of the air bag and the contact with the right front seat caused the craniocerebral injuries that caused V-1 right front passenger's death. As V-1 continued down the embankment still rotating clockwise it rolled onto the roof and slid 42 feet before the right 'A' pillar struck a tree. This caused the front of to continue to rotate clockwise. V-1 came to final rest on the east shoulder 140 feet north of the area V-1 driver initially lost control. V-1 driver complained of minor neck and back injuries as a result of contact with the sign and the tree.

I proceeded to [redacted] to conduct a post collision

inspection of V-1. I did not observe any mechanical defects that would have contibuted to the collision. I did observe damage to the left 'A' pillar from contact with the sign as well a the left outside mirror was torn from the mount. There was a light colored paint scratch from the sign that started at the 'A' pillar and continued to the left 'C' pillar. There was another dent from the sign at the left 'C' pillar. The little window between the left rear window and the 'C' pillar was shattered and gone, the rear window was shattered and gone. The roof had damage to it from landing as V-1 rolled and was buckled all over. There was impact damage at the right front 'A' pillar from the contact with the tree. The right front door was forced outward at the top and was binding. The windshield was shattered at the base of the right 'A' pillar. The dash was forced up and toward the left from the impact with the tree. The steering column was intact. The entire front end was twisted to the left from contacting the ground as V-1 rolled onto the roof. There was dirt in the left tires and they were flat as a result of sliding sidewards. I observed an infant car seat in the right front seat that had the occupant restraint from V-1 properly threaded through the slots but it was not connected to the locking mechanism. V-1 driver stated that she had released the seatblet in order to remove V-1 right front passenger from the

car seat. There were several warning stickers on the car seat that stated that the seat was not to be placed in the front seat if there was a passenger side air bag.

On [redacted]-96 I spoke to V-1 driver. After reading her her [redacted] Warning she declined an attorney and agreed to speak to me. She stated that she was traveling north on [redacted] enroute to [redacted] on [redacted] She stated that V-1 right front passenger's mother, [redacted] was in another vehicle traveling to [redacted] to drop her car off. She then stated that as they entered the curve she thought that [redacted] car was going to travel into her lane and strike her so she steered hard to the right to avoid contact, losing control of V-1. She stated that [redacted] put V-1 right front passenger in the car and that she was only traveling 40 -45 miles per hour. I asked about her injuries and she stated that she was stiff but not injured. She also stated that she was using the occupant restraint device.

On [redacted]96 I spoke to [redacted] She stated that as she traveled north on [redacted] to drop her car off for repairs she observed V-1 drift into her lane and observed V-1 driver try to reenter her own lane by swerving to the right. She stated that V-1 driver then lost control of V-1 and crossed onto the east shoulder. She stated that she does not remember who put V-1 right front passenger in the front seat. She also stated that

she did not realize that V-1 right front passenger had been improperly placed in V-1 due to the passenger side air bag.

On [redacted]-96 I spoke to [redacted]. She stated that she placed V-1 right front passenger in the front seat, and did not realize that the car seat was not designed to be in the front seat with a passenger side air bag. She stated that as [redacted] traveled north on [redacted] V-1 driver got scared that [redacted] was going to travel into her lane and swerved to avoid contact. She also stated that V-1 driver had taken V-1 right front passenger out of the car and handed him to his mother. She also stated that the two vehicles were traveling 40 -45 miles per hour.

There is no physical evidence to indicate that V-1 driver's loss of control was influenced by any other vehicle, although the evidence does indicate that V-1 driver deliberately steered to the right to either avoid something or to return to her own lane of travel. This steering action was excessive and caused the loss of control that sent V-1 onto the east shoulder and to overturn, resulting in the collision that caused the death of V-1 right front occupant. This is in violation of [redacted] 1), Careless driving. The statute states that a driver shall operate a vehicle in a careful and prudent manner having regard for all attendant circumstances so as not to

although it never did, and swerved to avoid a possible collision. V-1 driver's actions did directly cause the collision that caused the death of V-1 right front passenger, [redacted], as well as the damage to the sign, owned by [redacted], and [redacted], and to V-1.

As there is no evidence of any criminal violation, all traffic infraction violations have been referred to the crash investigator, [redacted], for follow up on the crash case number [redacted]

[redacted] -96

STATE OF [redacted]
[redacted] OF [redacted]

Sworn to and subscribed before
me the undersigned authority on
this the [redacted] day of [redacted], 1996.

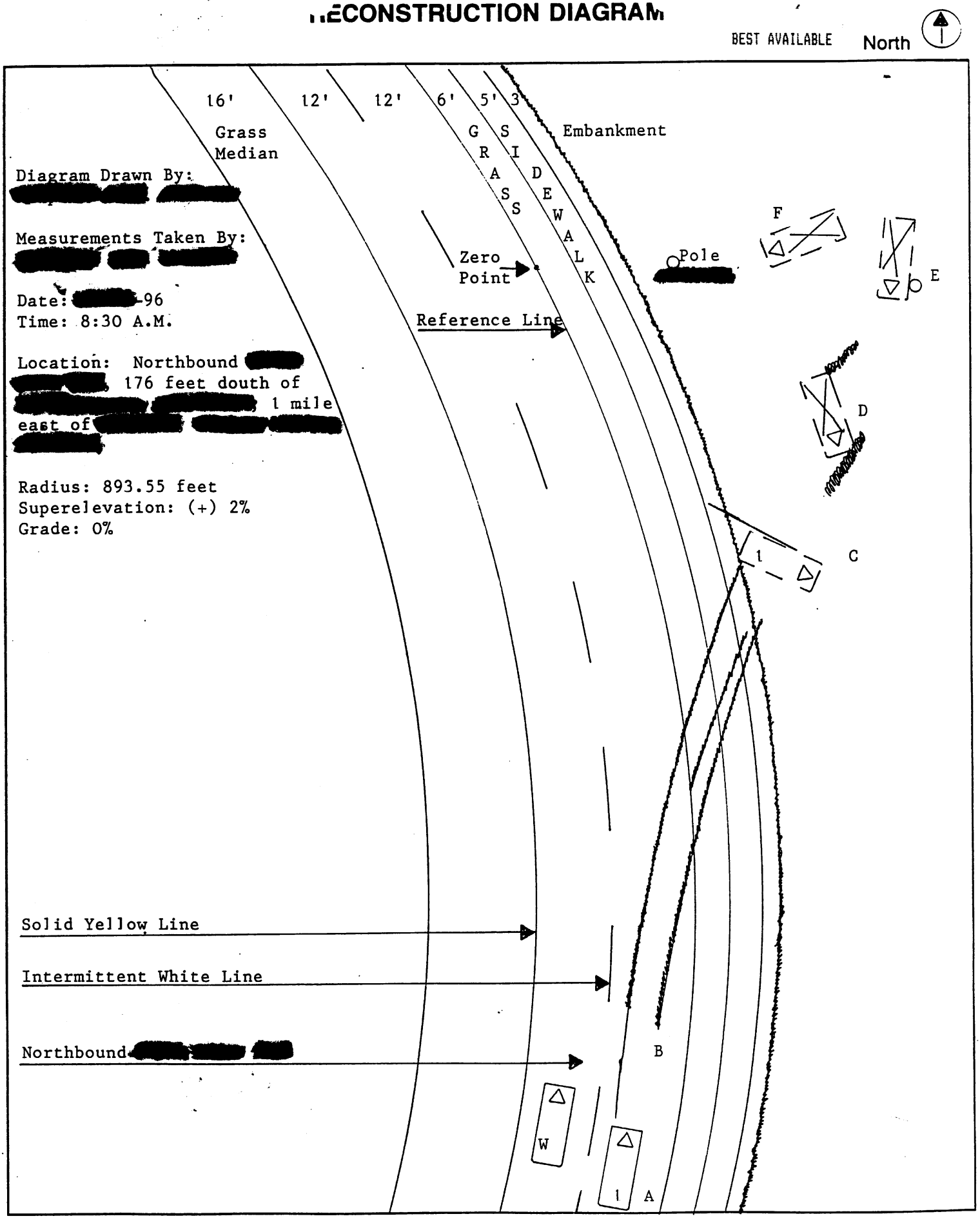
[redacted]

Notary Public
Section [redacted] Statutes

Personally Known [xx] Produced Identification [ ]
Type Identification Produced _____

RECONSTRUCTION DIAGRAM

BEST AVAILABLE



Case Number [redacted]

RECONSTRUCTION DIAGRAM LEGEND

The zero point is on the reference line and is marked by utility pole [redacted] on the east shoulder of [redacted], 22 feet east of the reference line, and 39 feet south of the intersection of [redacted]. The reference line is the center of the solid white line indicating the roadway edge of the outside northbound through lane of [redacted].

A - V-1 traveling northbound on [redacted].

B - V-1 driver steers to the right to avoid a possible collision, and begins to slid sideward.

C - V-1 continues to slide sideward for 44 feet before crossing onto the east shoulder and striking a sign.

D - V-1 continues to rotate clockwise and rolls onto its roof leaving several furrows.

E - V-1 slides on the roof for 42 feet before the right side strikes a tree.

F - The front of V-1 rotates clockwise after collision and comes to final rest on the east shoulder on its roof, 140 feet east of the area V-1 driver lost control.

WITNESS LIST

Name [redacted] Statement ☐ Yes ☒ No

Address [redacted]

Place of Employment [redacted]

Phone Numbers: Home (_____) N/A Work ([redacted])

Can Testify To: Conducting traffic homicide investigation.

Name [redacted] Statement ☒ Yes ☐ No

Address [redacted]

Place of Employment [redacted]

Phone Numbers: Home (_____) N/A Work ([redacted])

Can Testify To: Conducting traffic crash investigation, conducting the initial interview of V-1 driver. Crash Report case number [redacted].

Name [redacted] Statement ☐ Yes ☒ No

Address [redacted]

Place of Employment Medical Examiner, [redacted] Medical Examiner's Office

Phone Numbers: Home (_____) N/A Work ([redacted])

Can Testify To: Conducting autopsy on V-1 front passenger.

Case Number [redacted]

[redacted] (Rev. [redacted])

WITNESS LIST

Name [redacted] Statement ☒ Yes ☐ No

Address [redacted]

Place of Employment [redacted]

Phone Numbers: Home [redacted] Work [redacted]

Can Testify To: Driving V-1.

Name [redacted] Statement ☒ Yes ☐ No

Address [redacted]

Place of Employment [redacted]

Phone Numbers: Home [redacted] Work [redacted]

Can Testify To: Witnessing V-1 lose control.

Name [redacted] Statement ☒ Yes ☐ No

Address [redacted]

Place of Employment [redacted]

Phone Numbers: Home [redacted] Work [redacted]

Can Testify To: Witnessing V-1 lose control.

Case Number [redacted]

SWORN AND SUBSCRIBED BEFORE ME

THIS [redacted] DAY OF [redacted] 1996

NOTARY PUBLIC [redacted]

SECTION [redacted]

COPY OF THE ORIGINAL DOCUMENT

BEST AVAILABLE

WITNESS INTERVIEW

Name [redacted] Date/Time [redacted] 1996

Address [redacted]

Place of Employment [redacted]

Phone Number(s): Home (_____) N/A Work ([redacted]) [redacted]

Interview Conducted By: [redacted]

ON THE ABOVE DATE I WAS DISPATCHED TO A SINGLE CAR CRASH AT [redacted] AND [redacted]. UPON MY ARRIVAL I OBSERVED A PURPLE HYUNDAI ON ITS TOP, DOWN AN EMBANKMENT ON EASTSIDE OF [redacted]. THERE WAS NO ONE ON SCENE HOWEVER, DISPATCH ADVISED THERE HAD BEEN TWO PEOPLE TRANSPORTED TO [redacted]. I HAD DISPATCH CONTACT THE HOSPITAL FOR CONDITION OF OCCUPANTS. DISPATCH STATES HOSPITAL ADVISED STABLE FOR BOTH PEOPLE. I HAD VEHICLE TOWED THEN WENT TO HOSPITAL. APPROXIMATELY 3:55 pm I SPOKE WITH A W/F, [redacted] IDENTIFIES AS THE DRIVER OF THE HYUNDAI, BY [redacted] D/L. I ASKED HER IF SHE WAS DRIVING & SHE STATES YES. I THEN ASKED HER WHAT HAPPENED. [redacted] STATES SHE JUST LOST CONTROL. I ASKED HER HOW SHE LOST CONTROL. SHE STATED SHE WAS GOING STRAIGHT WHEN SHE THOUGHT A VEHICLE FROM OTHER LANE WAS CHANGING LANES WHEN SHE JERKED HER VEHICLE TO RIGHT RAN OFF ROAD, OVERTURNED & HIT A TREE.

Sworn to me this [redacted] day of [redacted], 1996.

[redacted]
(Law Enforcement Officer Signature)
Section [redacted]

I swear/affirm that this statement is true and correct.

[redacted]
(Witness Signature)

Statement Page 1 of 1

Case Number [redacted]

[redacted] (Rev [redacted])

Personally Known (X)
Or Produced Identification (___)
Type Of Identification Produced:

SWORN AND SUBSCRIBED BEFORE ME,

THIS [redacted] DAY OF [redacted] 19 96

I CERTIFY THIS TO BE A TRUE COPY OF THE ORIGINAL DOCUMENT

BEST AVAILABLE

WITNESS INTERVIEW

[redacted]

SECTION [redacted]

Name [redacted] Date/Time [redacted]-96 11:00 Am

Address [redacted]

Place of Employment [redacted]

Phone Number(s): Home ([redacted]) [redacted] Work ([redacted]) [redacted]

Interview Conducted By: [redacted]

I was driving down [redacted] and I thought that the baby mom was going to come on to my lane so I swerved and the next thing I know is that I'm on the side walk and in the grass flipped over. [redacted] the baby mom but the baby in my car in the front seat a booster chair (ini.) I was [redacted] going about 40 mph not faster than 45 because I knew the school zone was up ahead.

Sworn to me this [redacted] day of [redacted], 1996

[redacted]

(Law Enforcement Officer Signature)

Section [redacted]

I swear/affirm that this statement is true and correct.

[redacted]

(Witness Signature)

Statement Page 1 of 1

Case Number [redacted]

[redacted] (Rev.)

[redacted]

STATE OF FLORIDA, COUNTY OF [redacted]
SWORN AND SUBSCRIBED BEFORE ME

I CERTIFY THIS TO BE A TRUE COPY OF THE ORIGINAL DOCUME

THIS [redacted] DAY OF [redacted] 19 96

NOTARY PUBLIC [redacted]

SECTION [redacted]

WITNESS INTERVIEW

BEST AVAILABLE

Name [redacted] Date/Time [redacted]-96 / 5:55 A.M.

Address [redacted]

Place of Employment [redacted]

Phone Number(s): Home ([redacted]) [redacted] Work ([redacted]) [redacted]

Interview Conducted By: [redacted]

We were on our way to the shop to fix my car I don't remember who I had given my son to driving that time I was putting his bags in her car. I put my son in her car because I had a mother problem and a low tire. We were headed to the shop down [redacted] was to the right of me, I noticed her car swirve she almost hitting my car she swirved back in her lane hitting the curb the that is when she hit the embankment.

Sworn to me this [redacted] day of [redacted],

[redacted]

(Law Enforcement Officer Signature)
Section [redacted]

I swear/affirm that this statement is true and correct.

[redacted]

(Witness Signature)

Statement Page 1 of 1

Case Number [redacted]

[redacted]

Page 19

SWORN AND SUBSCRIBED BEFORE ME.

THIS [redacted] DAY OF [redacted] 19 96

NOTARY PUBLIC

WITNESS INTERVIEW

BEST AVAILABLE

SECTION [redacted]

Name [redacted] Date/Time [redacted]-96 1000Am

Address [redacted]

Place of Employment [redacted]

Phone Number(s): Home ([redacted]) [redacted] Work ([redacted]) [redacted]

Interview Conducted By: [redacted]

We where at [redacted] house I Put the baby in the car & [redacted] strapped him in. then we Left we were going down [redacted] got scared that [redacted] was going to hit her car She Swirved and Lost Controll of her car after the act we took the Baby out of the car and waited for the ambolance. We were traveling 40-45 miles per hour.

Sworn to me this [redacted] day of [redacted], 1996

[redacted]

(Law Enforcement Officer Signature)
Section [redacted]

I swear/affirm that this statement is true and correct.

[redacted]

(Witness Signature)

Statement Page 1 of 1

Case Number [redacted]

[redacted] (Rev.)

Page 20

NO FD

PROPERTY TAKEN INTO CUSTODY (Personal)

BEST AVAILABLE

Name [redacted]

Date and Time Removed [redacted]-96 2:00 ☐ a.m. ☒ p.m. Where [redacted]

Removed By Emergency Room Staff, [redacted]

Total Amount of Money N/A

Jewelry (Describe) N/A

Purse (Describe) N/A

Wallet (Describe) N/A

Other Valuables (Describe) N/A

Custody By N/A (Signature) Witnessed Inventory N/A (Signature)

Property Released To N/A (Signature) Telephone No. N/A

Address N/A

Date Released N/A Time N/A ☐ a.m. ☐ p.m.

Case Number [redacted]

[redacted] (Rev [redacted])

PROPERTY TAKEN INTO CUSTODY (Personal)

Name [redacted]

Date and Time Removed [redacted]-96 2:00 ☐ a.m. ☒ p.m. Where [redacted]

Removed By Emergency Room Staff, [redacted] Road, [redacted]

Total Amount of Money N/A

Jewelry (Describe) N/A

Purse (Describe) N/A

Wallet (Describe) N/A

Other Valuables (Describe) N/A

Custody By N/A (Signature) Witnessed Inventory N/A (Signature)

Property Released To N/A (Signature) Telephone No. N/A

Address N/A

Date Released N/A Time N/A ☐ a.m. ☐ p.m.

Case Number [redacted]

[redacted] (Rev. [redacted])

PROPERTY TAKEN INTO CUSTODY
(VEHICLE)

Vehicle No. ONE

Year and Make 1995 Hyundai Model Accent Type 4 Door

Color(s) Purple Tag No. [redacted] State [redacted]

Accessories:

5	No. of Tires	X	Seat Belts
4	No. of Hubcaps		Tools
X	Radio	X	Clock
X	Rearview Mirror		Trailer Hitch
X	Side View Mirror	X	Heater
X	Horn(s)	X	Air Conditioner
	Spotlight		Fog Lights
	CB Radio		Other Lights
X	Tape Player	X	Tools (jack, etc.)

Other Property (Describe) 1 infant car seat, assorted personal papers.

We certify that the above vehicle/property inventory is correct to the best of our knowledge.

Trooper [redacted] Wrecker Driver [redacted]

Date/Time Inventoried [redacted]96 3:0 P.M. Location Crash Scene

Vehicle Towed To [redacted] (Name) [redacted] (Address)

Hold On Vehicle: ☒ Yes ☐ No If yes, why? post collision inspection

Released By [redacted] Date/Time [redacted]-96 10:00 A.M.

Released To [redacted] Date/Time [redacted]-96 10:00 A.M.

Case Number [redacted]

[redacted] (Revised [redacted])

OFFICE of VITAL STATISTICS

BEST AVAILABLE

CERTIFIED COPY

CERTIFICATE OF DEATH

LOCAL FILE NO. [redacted]

1. DECEDENT'S NAME	FIRST	MIDDLE	LAST	2. SEX
	[redacted]	[redacted]	[redacted]	Male

3. DATE OF DEATH (Month, Day, Year)	4. SOCIAL SECURITY NUMBER	5a. AGE-Last Birthday (years)	5b. UNDER 1 YEAR Months	Days	5c. UNDER 1 Day Hours	Minutes
[redacted], 1996	[redacted]	--	3			

6. DATE OF BIRTH (Month, Day, Year)	7. BIRTHPLACE (City and State or Foreign Country)	8. WAS DECEDENT EVER IN U.S ARMED FORCES? (Yes or No)
[redacted] 1995	[redacted]	No

9a. PLACE OF DEATH (Check only one: see instructions on other side)
HOSPITAL: X Inpatient __ ER/Outpatient __ DOA OTHER: __ Nursing Home __ Residence __ Other (Specify)

9b. INSIDE CITY LIMITS? (Yes or No): Yes

9c. FACILITY NAME (If not institution, give street and number)	9d. CITY, TOWN, OR LOCATION OF DEATH	9e. COUNTY OF DEATH
[redacted]	[redacted]	[redacted]

10a. DECEDENT'S USUAL OCCUPATION	10b. KIND OF BUSINESS/INDUSTRY	11. MARITAL STATUS — Married, Never Married, Widowed, Divorced (Specify)	12. SURVIVING SPOUSE (If wife, give maiden name)
Never Worked	Never Worked	Never Married	

13a. RESIDENCE — STATE	13b. COUNTY	13c. CITY, TOWN, OR LOCATION	13d. STREET AND NUMBER
[redacted]	[redacted]	[redacted]	[redacted]

13e. INSIDE CITY LIMITS? (Yes or No)	13f. ZIP CODE	14. WAS DECEDENT OF HISPANIC OR HAITIAN ORIGIN? (Specify No or Yes — If yes, specify Haitian, Cuban, Mexican, Puerto Rican, etc.)	15. RACE — American Indian, Black, White, etc. Specify:	16. DECEDENT'S EDUCATION (Specify only highest grade completed) Elementary/Secondary (0 - 12)	College (1 - 4 or 5 +)
Yes	[redacted]	__ No X Yes Specify: [redacted]	Black	0	

17. FATHER'S NAME (First, Middle, Last)	18. MOTHER'S NAME (First, Middle, Maiden Surname)
[redacted]	[redacted]

19a. INFORMANT'S NAME (Type/Print)	19b. MAILING ADDRESS (Street and Number or Rural Route Number, City or Town, State, Zip Code)
[redacted]	[redacted]

20a. METHOD OF DISPOSITION	20b. PLACE OF DISPOSITION (Name of cemetery, crematory, or other place)	20c. LOCATION — City or Town, State
X Burial __ Cremation __ Removal from State __ Donation __ Other (Specify)	[redacted]	[redacted]

21a. SIGNATURE OF FUNERAL SERVICE LICENSEE OR PERSON ACTING AS SUCH	21b. LICENSE NUMBER	21c. NAME AND ADDRESS OF FACILITY
[redacted]	[redacted]	[redacted]

To be Completed by CERTIFYING PHYSICIAN Only

22a. To the best of my knowledge, death occurred due to the cause(s) and manner as stated, on the date and place and due to the cause(s) as stated.
(Signature and Title) ▶

22b. DATE SIGNED (Mo., Day, Yr.)	22c. HOUR OF DEATH
	M

22d. NAME OF ATTENDING PHYSICIAN IF OTHER THAN CERTIFIER (Type or Print)

To be Completed by MEDICAL EXAMINER

23a. On the basis of examination, and/or investigation, in my opinion death occurred at the time, date and place and due to the cause(s) and manner as stated.
(Signature and Title) ▶

23b. DATE SIGNED (Mo., Day, Yr.)	23c. HOUR OF DEATH
[redacted], 1996	9:43 p. M

23d. MEDICAL EXAMINER'S CASE # [redacted]

24. NAME AND ADDRESS OF CERTIFIER (PHYSICIAN, MEDICAL EXAMINER) (Type or Print)
[redacted]

25a. SUBREGISTRAR — SIGNATURE AND DATE	25b. [redacted] REGISTRAR — SIGNATURE	25c. DATE REGISTERED
▶	DEPUTY REGISTRAR	[redacted] 1996

26. PART I. Enter the diseases, injuries, or complications that caused the death. Do not enter the mode of dying, such as cardiac or respiratory arrest, shock, or heart failure. List only one cause on each line.

		Approximate Interval Between Onset and Death
IMMEDIATE CAUSE (Final disease or condition resulting in death) →	a. Extensive craniocerebral injuries	
Sequentially list conditions, if any, leading to immediate cause. Enter UNDERLYING CAUSE (Disease or injury that initiated events resulting in death) LAST.	DUE TO (OR AS A CONSEQUENCE OF): b. Multiple blunt force trauma	
	DUE TO (OR AS A CONSEQUENCE OF): c. Passenger/single vehicle crash	
	DUE TO (OR AS A CONSEQUENCE OF): d.	

PART II. Other significant conditions contributing to death but not resulting in the underlying cause given in Part I.	27a. WAS AN AUTOPSY PERFORMED? (Yes or No)	27b. WERE AUTOPSY FINDINGS USED TO COMPLETE CAUSE OF DEATH? (Yes or No)	28. CASE REPORTED TO MEDICAL EXAMINER? (Yes or No)
	Yes	Yes	Yes

29. IF FEMALE, WAS THERE A PREGNANCY IN THE PAST 3 MONTHS? __YES __ NO	30a. IF SURGERY IS MENTIONED IN PART I or II ENTER CONDITION FOR WHICH IT WAS PERFORMED.	30b. DATE OF SURGERY (Mo., Day, Year)

31. PROBABLE MANNER OF DEATH (Specify) Natural, accident, suicide, homicide, or undetermined.	32a. DATE OF INJURY (Month, Day, Year)	32b. TIME OF INJURY	32c. INJURY AT WORK? (Yes or No)	32d. DESCRIBE HOW INJURY OCCURRED
Accident	[redacted], 1996	2:00 p.M	No	Decedent was restrained front passenger in single vehicle roll-over crash

32e. PLACE OF INJURY — At home, farm, street, factory, etc. (Specify)	32f. LOCATION (Street and Number or Rural Route Number, City or Town, State)
Off roadway	[redacted] of [redacted]

THIS IS A CERTIFIED TRUE AND CORRECT COPY OF THE OFFICIAL RECORD ON FILE IN THIS OFFICE

[redacted] Page 24

BY: CHIEF DEPUTY REGISTRAR State Registrar [redacted] 1996

WARNING: ANY REPRODUCTION OF THIS DOCUMENT IS PROHIBITED BY LAW. DO NOT ACCEPT UNLESS ON SECURITY PAPER WITH LINES AND SECURITY WATERMARK ON BACK AND COLORED BACKGROUND AND GOLD EMBOSSED GREAT SEAL OF THE STATE OF [redacted] ON FRONT. ALTERATION OR ERASURE VOIDS THIS CERTIFICATION.

[redacted]

HR[redacted]

CERTIFICATION OF VITAL RECORD

Page: 1
Date: [redacted]-96
M.E. Number: [redacted]

OFFICE OF THE DISTRICT NINE
MEDICAL EXAMINER

Name: [redacted], [redacted], –
Age: [redacted] **Sex:** [redacted] **Race:** [redacted]

Law Enforcement Agency: [redacted]
LEA #: [redacted] **LEA Inv.:** [redacted]

Date of Death: [redacted]/96 (_____) **Time of Death:** 943 PM (_____)
Date Pronounced: [redacted]/96 **Time Pronounced:** 943 PM
Pronounced By: [redacted], _____, –

Date Of Autopsy: [redacted]/96 **Time Of Autopsy:** 1000 AM
Autopsy By:
[redacted], [redacted], [redacted] Medical Examiner M.D.
_____, _____, _, Fellow M.D.
_____, _____, _, Resident M.D.

Height: 23 INCHES **Weight:** 18 LBS
Livor: POSTERIOR **Rigor:** PASSING
Hair Color: BROWN **Eye Color:** BROWN
Teeth Upper: NONE **Lower:** NONE

Clothing: N **Released To:** _____
Valuables: N **Released To:** _____
Evidence: Y **Released To:** _____

Body Released To: [redacted]

Identification:

ID Method: [redacted]
ID By: [redacted], –
Address: [redacted]
Relationship: MOTHER

ID To: [redacted], [redacted], –
Date Of ID: [redacted]/96 **Time Of ID:** 943 PM
Place: HOSPITAL [redacted]

Organic Diseases:

NONE

Certified Cause of Death:

a) EXTENSIVE CRANIOCEREBRAL INJURIES
b) MULTIPLE BLUNT FORCE TRAUMA
c) PASSENGER/SINGLE VEHICLE CRASH
d)

Manner of Death: ACCIDENT

REPORT NAME: [redacted]

BEST AVAILABLE

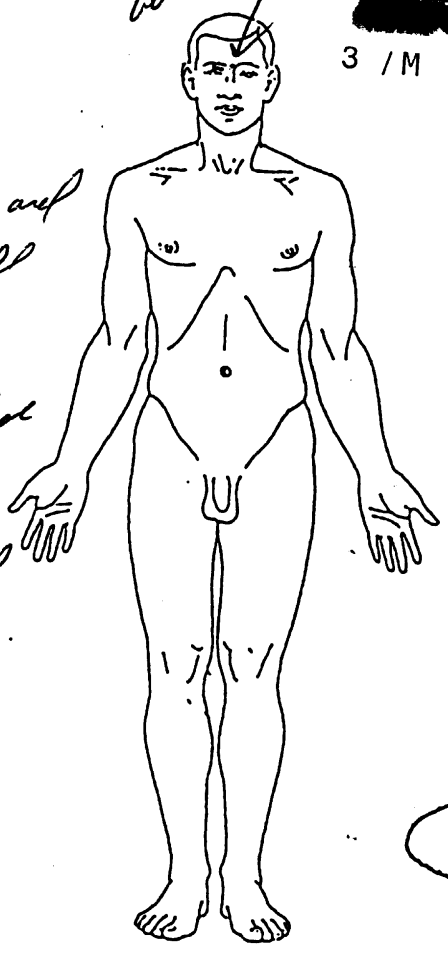
2 small abrasions on forehead

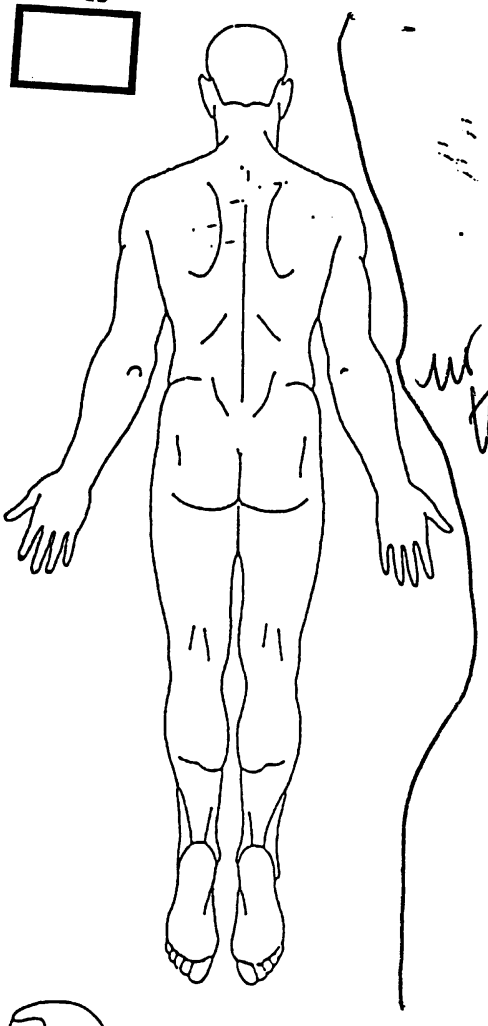
[redacted] /96

3 /M H/M

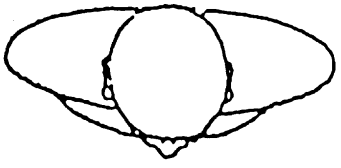
MD ID

Autopsy -
Massive bilateral and Basilar Skull fractures.
Brain c diffuse sub-dural and sub-arachnoid blood

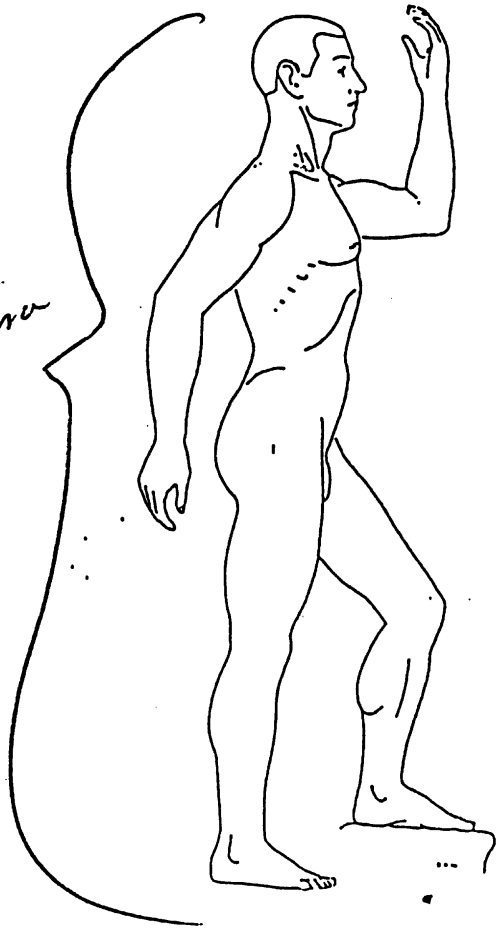


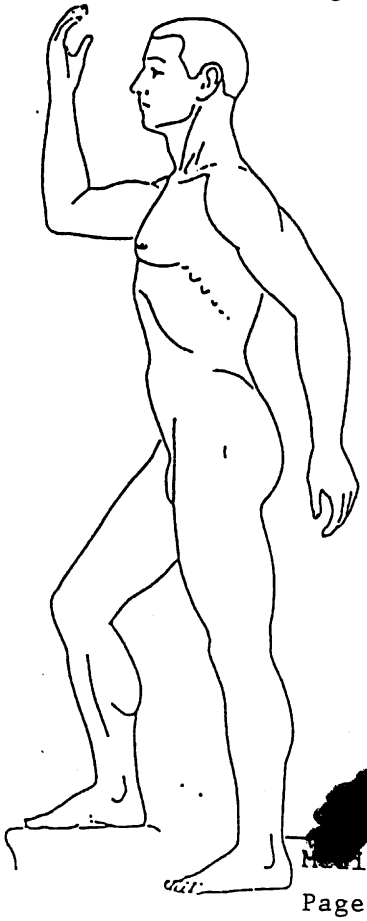


w/ trauma



no trauma





[redacted]

[redacted]

Medical Examiner

[redacted] HIGHWAY PATROL

BEST AVAILABLE

PRELIMINARY FATALITY REPORT

Traffic Accident Investigation

Date Of Report [redacted]-96

Date Of Accident [redacted]-96

Name Of Investigator [redacted]

Name Of Suspect [redacted]

Arrest? ☐ YES ☒ NO Charges Traffic pending

Date Of Death [redacted]-96 Homicide Case No. [redacted]

Victim's Name [redacted]

Preliminary Investigation Reveals (Check One):

☒ No evidence of Criminal Violation(s).

☐ Evidence of Criminal Violations as described below:

V-1 was traveling north on [redacted] V-1 driver stated she thought someone was going to change lanes into hevr lane of travel. She steered V-1 to the right causing it to travel sidewards across the curb, the sidewalk and down the embankment, rolling onto the roof. V-1 then slid into a tree. The victim was in a car seat in the front seat ~~XXXXXXXX~~ improperly restrained. The airbag deployment forced the car seat forward and caused the injuries to the victim. This crash is not alcohol related and occurred on [redacted], 176 feet south of [redacted], 2 miles east of [redacted] Traffic Homicide assigned by [redacted]

INVESTIGATOR WILL PERSONALLY DELIVER THIS REPORT ON ALL TRAFFIC HOMICIDE INVESTIGATIONS TO THE STATE ATTORNEY WITHIN 72 HOURS OF INVESTIGATION. THIS REPORT IS TO BE ACCOMPANIED BY A COPY OF THE TRAFFIC ACCIDENT [redacted]

cc: Station File
Homicide Investigation Section

Prepared by: [redacted]
Traffic Homicide Investigator

Received: [redacted]
State Attorney's Office

[redacted] (REV. [redacted])

Date _____ Time _____

OFFICE OF THE MEDICAL EXAMINER

[redacted]

REPORT OF AUTOPSY

DECEDENT: [redacted] CASE NUMBER: [redacted]

MANNER OF DEATH: Accident IDENTIFIED BY: [redacted]

AGE: [redacted] HEIGHT: 23"
SEX: [redacted] WEIGHT: 18#
RACE: [redacted] DATE OF DEATH: [redacted], 1996

DATE/TIME OF AUTOPSY: [redacted], 1996 @ 9:30 AM

PERFORMED BY: [redacted], [redacted]. Associate Medical Examiner

---

CAUSE OF DEATH: Extensive craniocerebral injuries, due to multiple blunt force trauma, due to passenger in single vehicle crash

---

FINAL ANATOMIC DIAGNOSIS

I. Extensive craniocerebral injuries, including:
   A. Massive diffuse galeal and subgaleal hematoma
   B. Extensive multiple linear skull fractures of the parieto-occipital and temporal regions
   C. Multiple basilar skull fractures of the petrous temporal regions and occipital regions
   D. Diffuse subdural and subarachnoid blood, surrounding cerebrum and cerebellum

II. Shearing injuries of epidural vasculature of thoracic and lumbar spinal cord

III. Mild abrasions of forehead and right eye

LABORATORY ANALYSIS

Comprehensive toxicology studies performed on postmortem blood and urine disclosed no drugs of abuse, volatiles including alcohol, or therapeutic drugs detected, other than lidocaine which is identified.

[redacted]

The medicolegal examination of the body of [redacted] is performed by [redacted], M.D., Associate Medical Examiner, [redacted] at the [redacted] Medical Examiner Facility, [redacted] on [redacted], 1996 at 9:30 AM pursuant to [redacted] Chapter [redacted] and [redacted].

IDENTIFICATION: The body of [redacted] is identified by his mother, [redacted] of [redacted]. The identification is made to [redacted], M.D. on [redacted], 1996 at 9:43 PM at [redacted] Hospital [redacted].

CLOTHING AND VALUABLES: The subject is admitted to the morgue without clothing articles, jewelry, personal items, money, or medications.

SCARS, TATTOOS & SPECIAL FEATURES: There are no areas of scarring, tattoos, needle track marks or chronic cutaneous needle puncture sites identified.

GENERAL STATEMENT: The body is that of a 23", 18#, normally developed, well nourished dark skinned Hispanic male, appearing consistent with the given age of 3 months. There is passing rigor mortis present and a posterior livor mortis observed. No major physical abnormalities are present.

EXTERNAL EXAMINATION

The scalp is covered by thick crop of partially shaved curly black/brown hair. The facial features are unremarkable. There are no facial or periorbital petechiae and no petechiae of the conjunctivae or sclerae are present. The irides are brown and the pupils are equal measuring 2 mm. The mouth is normally formed and is edentulous, without evidence of traumatic injury. The frenula are intact and no blood or fluid material is present in the oro or nasopharynx.

The neck is normally formed and has no evidence of external trauma or deformities.

The chest, back and abdomen are normally formed, symmetric, atraumatic and have no identifying features.

The extremities are symmetric, normally formed and without venous track marks or identifying features.

SPECIAL PROCEDURES: Toxicologic analysis: Body fluids and tissues consisting of chest and aorta blood, bile, urine, ocular fluid, nasal swabs and liver are obtained for toxicology studies. Forensic analysis: Rib tissue, pulled head hair, and blood. Histologic analysis: Representative sections are submitted.

Postmortem examination of the vehicle and infant seat disclosed the seat to be placed in the right front passenger seat, rear facing, seat-belt unattached but through seat-belt guides of infant seat with airbag deployed. A fracture is noted on the posterior aspect of the infant seat. The carrier handle is broken off and has a fine pattern marking, consistent with airbag burning and abrasion.

The restraint system of the infant seat itself is operational and found in the fully extended (loose) position. No blood or tissue is noted on the material or plastic or car seat.

EVIDENCE OF MEDICAL INTERVENTION: The anterior portion of the scalp hair is shaved. A single puncture site is noted midline frontal scalp, a bandage is over the right subclavian fossa and intravenous attempt sites are noted in the right subclavian fossa. Associated with the intravenous attempt of the right subclavian fossa is mild soft tissue hemorrhage and a mild right chest hemothorax (150 ml). An endotracheal tube is in the mouth and in correct position in the trachea. Multiple intravenous attempts are in both antecubital fossa bilaterally. Bandages are over both groins, covering multiple puncture sites from intravenous attempts in the right groin and an incision on the left groin. A Foley catheter is in place. Interosseous attempts on the right anterior leg are noted, incision is on the right lateral ankle and an identification bracelet is on the left ankle.

EVIDENCE OF INJURY: External injuries are minimal, including only a 1 x 0.4 cm abrasion over the right eye below the eyebrow, and a faint 1 x 1 cm abrasion on the bridge of the nose. Scalp swelling is diffusely pronounced posteriorly but no definitive abrasions or contusions are seen externally.

Reflecting the scalp discloses diffuse subgaleal and galeal contusion, sparing only the left and right frontal areas. A distinct 2 x 2 cm subgaleal and galeal hematoma is noted midline just anterior to the coronal fissure. Otherwise, the galeal and

subgaleal hematoma extends bilaterally and diffusely over both parieto-occipital regions.

Multiple linear skull fractures are noted, all being posterior to the coronal suture. On the right extending posteriorly from the coronal suture and approximately to the mid parieto-occipital region is a linear fracture which then extends from the base of the skull superiorly to near-apex. On the left side a large linear fracture runs from the sagittal suture downward and anterior to the zygomatic arch region. A second linear fracture is more posterior with multiple linear branchings going posterior, anterior and lateral. Removing the calvarium discloses no epidural blood.

Removing the dura discloses diffuse (approximately 20 ml) subdural blood superiorly, anteriorly, posteriorly and inferiorly around the cerebrum and also extending around the cerebellum completely. Subarachnoid blood is also noted diffusely. Sectioning the 620 gram brain discloses no definitive contusions. Otherwise, the brain is normally formed grossly and on cut section.

Stripping the dura from the skull and calvarium discloses extensive basilar skull fractures, bilaterally across the petrous temporal ridges and anteriorly in the temporal fossa, also, in the occipital regions bilaterally.

INTERNAL EXAMINATION

BODY CAVITIES: The serosal surfaces are pink-tan and glistening and contain no excess fluids, except as previously mentioned. No adhesions or inflammatory processes are noted.

HEART: The heart weighs 34 grams and has a normal amount of subepicardial fat. The coronary arterial system is normally distributed and serial sectioning at 2 mm intervals reveals widely patent lumina throughout their length. Sectioning of the myocardium reveals no evidence of pallor or acute myocardial injury. There is no hypertrophy or dilatation of the cardiac chambers. The mural endocardium and coronary orifices are unremarkable. The left ventricular free wall measures

0.8 cm in thickness; the intraventricular septum measures 0.8 cm. The valves are normally formed and without vegetations or calcifications. Valve circumferences: Aortic valve 1.7 cm, pulmonary valve 1.6 cm, mitral valve 2.5 cm and tricuspid valve 2.7 cm.

PERIPHERAL VASCULAR SYSTEM: The aorta is intact throughout its thoracic and abdominal distributions and great vessels arise in a normal anatomic pattern. There are no areas of atherosclerotic stenosis or aneurysm formation.

NECK ORGANS: The larynx, trachea and main stem bronchi are all unremarkable externally and along their mucosal surfaces. There is no obstructive material within the upper tracheobronchial tree. The hyoid bone and thyroid cartilage are intact and the musculature of the neck has no extravasated blood and are atraumatic.

LUNGS: The right and left lungs weigh 38 and 40 grams respectively. The pleural surfaces are smooth and glistening with no petechiae, areas of inflammation, or adhesions. No mucous plugging or foreign material is noted within the tracheobronchial tree.

Sectioning reveals bilateral congestion and edema, without inflammatory processes or thromboemboli.

GASTROINTESTINAL SYSTEM: The esophagus, stomach, small and large intestines are all unremarkable externally and along their mucosal surfaces. The stomach contains 5 ml of brown/tan mucofluid with no foreign bodies present. No areas of inflammation are present, and there are no masses or areas of necrosis.

The appendix is present with no inflammation. No significant mesenteric lymphadenopathy is noted.

PANCREAS: The pancreas weighs 9 grams. The pancreas is tan/brown and exhibits a normal lobular pattern, with no hemorrhage, inflammation, fibrosis, calcification, or pseudocyst formation.

LIVER: The liver weighs 165 grams. The capsular surface is smooth and glistening, with no foci of hemorrhage or fibrosis.

Sectioning discloses a normal lobular pattern of hepatic parenchyma with no prominent centrilobular areas. The parenchyma is tan/brown with no yellow discoloration. The texture is moderately firm. The gallbladder and biliary duct system are normal and the gallbladder contains green, viscous bile with no stones noted.

SPLEEN/LYMPH NODES: The spleen weighs 18 grams. The capsule is blue/grey and smooth. Sectioning discloses a soft, dark maroon/red parenchyma without excessive fibrosis or prominent lymphoid follicles. The axillary, mediastinal, periaortic, cervical and inguinal lymph nodes are not enlarged and are unremarkable.

THYMUS: Sectioning the 50.8 gram thymus discloses no gross histopathologic abnormality.

KIDNEYS/URINARY SYSTEM: The right and left kidneys weigh 25 and 26 grams respectively. The cortical surfaces are red/brown, smooth and glistening. The renal capsules strip with ease. Sectioning reveals a normal corticomedullary demarcation without areas of hemorrhage, inflammation or fibrosis. The ureters are unremarkable and lead to a urinary bladder containing only 1-2 ml of turbid yellow urine. The mucosa of the bladder has no areas of hemorrhage, trauma or inflammation.

ADRENAL GLANDS: The adrenal glands are normally formed and sectioning discloses a normal corticomedullary relationship. No hemorrhage is noted.

REPRODUCTIVE SYSTEM: The genitalia are normal circumcised male infant. The testes are distended into the scrotum.

MUSCULOSKELETAL SYSTEM: There is no evidence of recent or remote trauma in any area of the musculoskeletal system, except as previously mentioned.

BRAIN: See EVIDENCE OF INJURY section.

MICROSCOPIC EXAMINATION

HEART: Sections of myocardium disclose no evidence of inflammation, fibrosis, necrosis or ischemic change.

LUNGS: Sections of lung disclose a normal alveolar architecture without excess edema, extravasated red blood cells or desquamated epithelial cells. No inflammatory cell infiltrate or thromboembolus formation is noted. Congestion and atelectasis are noted.

LIVER: Sections of liver reveal a normal lobular architecture with congestion causing dilatation of the sinusoids. The central veins are normal. No significant inflammatory exudate is within the periportal regions. No bile stasis is present.

SPLEEN: Sections of spleen reveal a normal follicular pattern without prominent germinal centers but red pulp depletion is noted.

PANCREAS: Sections of pancreas reveal a normal acinar architecture with well-defined islets of Langerhans'. There is no inflammatory reaction, saponification, hemorrhage or necrosis.

KIDNEYS: Sections of kidney reveal normal glomeruli without thickening of basement membranes. The tubules are normally formed without evidence of inflammatory cell infiltrate or acute tubular necrosis. There is no evidence of vascular occlusive disease.

ADRENALS: Sections of adrenals reveal a normal cortical and medullary architecture without evidence of hemorrhage, cortical nodular hypertrophy or cortical lipid depletion.

THYMUS: Sections of thymus disclose normal lymphoepithelial architecture.

BRAIN: Sections of cerebrum, cerebellum and cervical spinal cord disclose diffuse extravasated subarachnoid and subdural blood. The cerebrum and cerebellum disclose mild edema. No inflammatory, granulomatous or neoplastic processes are present.

[redacted]